Conditions Assessment

Mt. Everett Academy

June 2014

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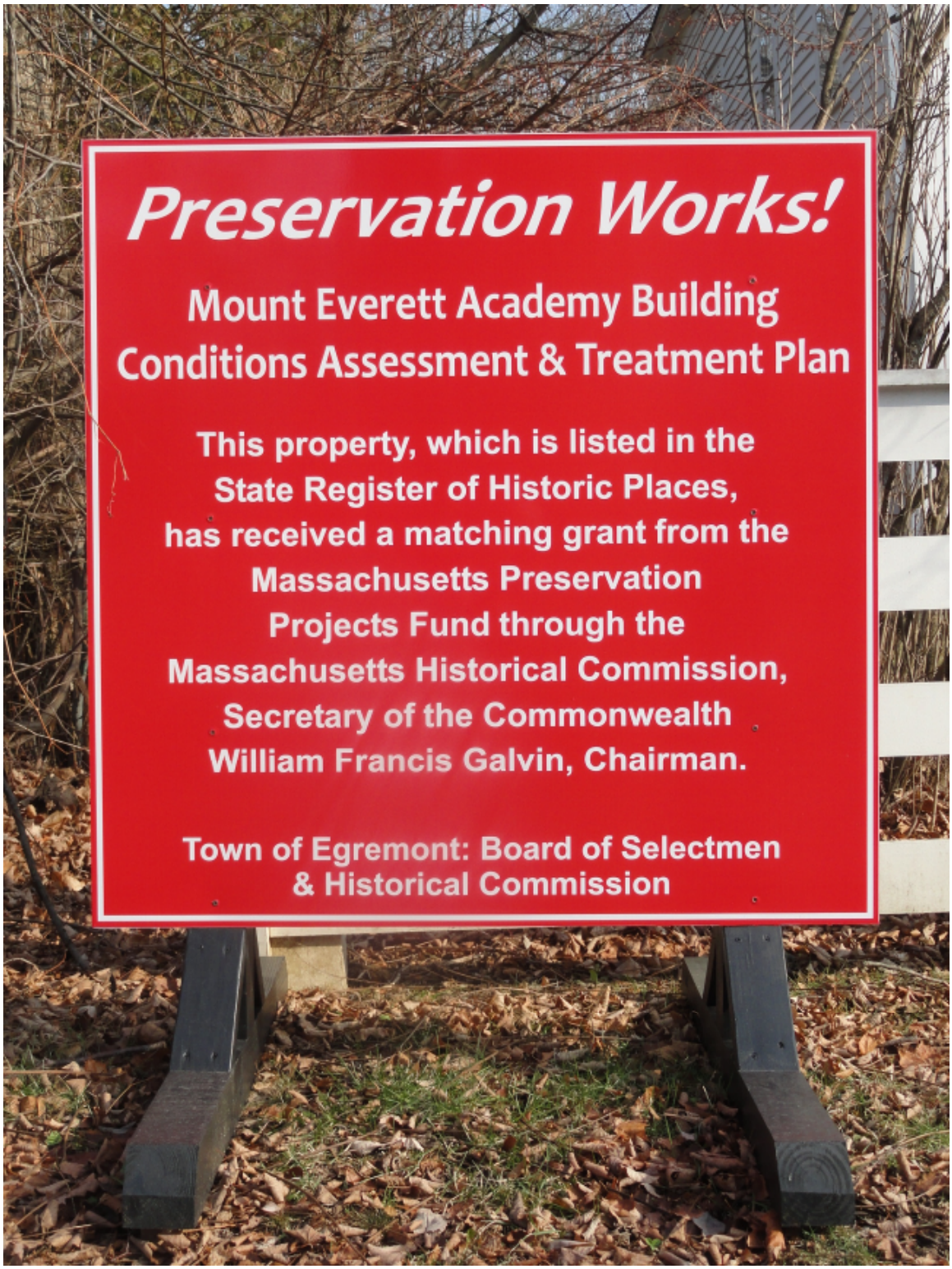
Preservation Works!
Mount Everett Academy Building
Conditions Assessment & Treatment Plan
This property, which is listed in the
State Register of Historic Places,
has received a matching grant from the
Massachusetts Preservation
Projects Fund through the
Massachusetts Historical Commission,
Secretary of the Commonwealth
William Francis Galvin, Chairman.
Town of Egremont: Board of Selectmen
& Historical Commission

EXECUTIVE SUMMARY

The 1830 Mount Everett Academy building is a well recognized architectural gem in the heart of South Egremont, Massachusetts. After serving as a private academy for twenty years, the building has demonstrated flexibility as it has been re-purposed many times over the following one hundred and sixty four years. Today the building continues to serve the public as a library and exhibition space.

CME Architecture, Inc. was contracted by the Town of Egremont to perform a conditions assessment and to develop a treatment plan for the Academy building in late 2013. The study was funded by the Town in partnership with the Massachusetts Historical Commission through a Massachusetts Preservation Projects Fund grant. The CME team consisted of a historical architect, structural engineer, mechanical and electrical engineers, and preservation consultants each of whom surveyed the property to assess existing conditions in a noninvasive manner. The team findings are presented in the body of this report as well as in the Appendix.

Generally, the building is in very good condition as it has been well maintained over the course of its history. There are improvements that should be addressed however, including repairs to the belfry roofing which has failed in places, allowing moisture into the structure and damaging some framing members. Additional structural work should be undertaken to reinforce the first floor framing. As the structural report confirms, the loads from the belfry framing are point loaded on the first floor beam which is supported by a stone pier at mid span instead of directly under the load bearing posts. The iron safe located under the stair should be removed from the building as it is imposing a tremendous load on the first floor beam that supports the belfry.

Other recommended improvements within the building include upgrades to the fire alarm system, additional emergency lighting, installation of energy efficient lighting fixtures, replacement of plumbing fixtures and improvements to the mechanical system. These recommendations are detailed in the individual reports found in the Appendix. The prioritized list of preservation recommendations outlines work such as foundation repointing, installation of a roof drainage system and cladding and trim repairs. A cyclical maintenance plan is also included in this report in order to assist the town in continuing to maintain the property in a systematic way that will insure its survival into the next century.

A report on accessibility recommendations and improvements that could be implemented to provide universal access to at least the first floor which houses the Egremont Free Library is also included. The Massachusetts Building Code does allow for a historic building to not strictly comply with the code if alternative access can be provided. Providing access to the library in a manner that is sensitive to the historic building will be critical to maintaining the integrity of this National Register property.

The Town of Egremont can be proud of the way it has provided for stewardship of Mount Everett Academy over time. The CME team is grateful to have worked with the Town in the preparation of this study, and pleased to provide a document that will serve as a guide for future preservation efforts.


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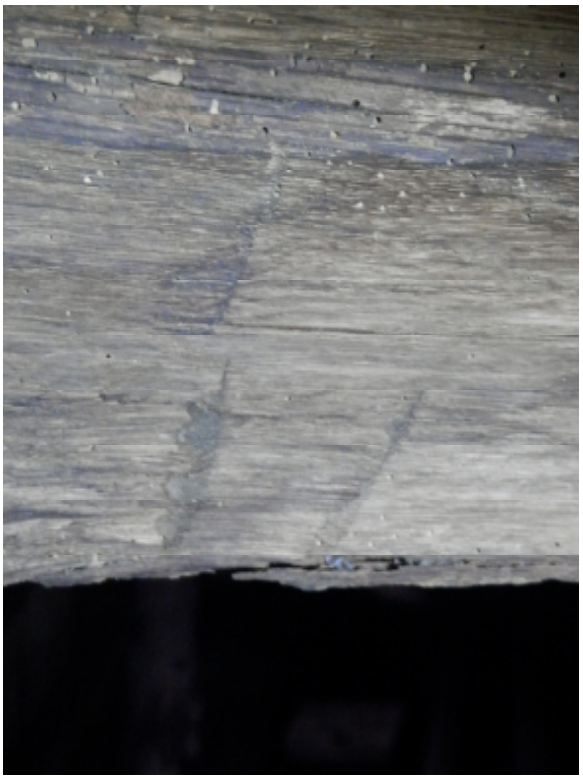
CHRONOLOGY OF CONSTRUCTION, ALTERNATIONS AND USE HISTORY

The Mt. Everett Academy building was erected from 1830 to 1832 as a private academy for boys and girls. It remained a school until 1880, when the town purchased the building for use as a Town Hall and Library. In 1980, the Town offices relocated and the Mount Everett Academy building became the Egremont Free Library. The second floor is being used as a local history museum and also houses the Town of Egremont Historic Commission Office and Archives.

Originally the Mt. Everett Academy building was a 3 bay post and beam structure having 2 stories, an attic and a bell tower. The structure was constructed as a square ruled timber frame with mortise and tenon joinery typical of this time period. The traditional timber frame utilized heavy, squared off, locally sourced logs to create the structural elements that were carefully fitted and joined by mortise and tenon connections which were then secured by trunnels (wood pegs). The belfry continues to house the cast bronze bell produced by the Meneely Bell Foundry of West Troy, New York in 1833.



The timber frame is supported by a foundation of locally quarried marble from the Goodale Quarry in South Egremont. The flooring system consists of hand hewn wood floor joists on hand hewn wood sills and cross beams. [Image 1] At mid span, the cross beams are supported by field stone piers. Concealed and decorative exposed columns support the second floor. A built-up heavy timber truss allows for a clear span of the second floor Hall, while the belfry framing is apparent in the decorative columns visible at the stage.

Image1. The larger elements in the Academy's structure, such as the posts, top and end plates are hand hewn, possibly oak or chestnut.

Image 2. The smaller structural elements (rafters, braces, joists, clapboards, and lath) show vertical saw marks and were cut on an upright water-powered mill.

Pine clapboards are installed directly onto the wood frame components. Wood shingles of either pine or cedar originally covered the eastern white pine roofing boards which today are sheathed in black asphalt shingles.

Many of the original 12 over 12 double-hung window sash and glass remain in situ. [Image 3] A HABS photo dated 1936 shows three windows that were replaced with 2 over 2 sash [Image 4] on the first floor and a fire escape leading to a sash door on the second floor. The fire escape was removed in 1950. In 2008 the windows were preserved and restored. Custom wood storm windows were installed.

Image 3. Detail of the original sash. The ogee profile of the muntin bar is typical of the period of construction.

Image 4. Detail view of the replacement sash in the window openings that had 2/2 sash in the HABS photo.

The first floor layout has changed along with the building's use. Originally built as a one or possibly two-room school building, the interior of the structure retains the original stairway serving the second floor immediately to the left of the entry door. Walls and ceilings were finished in plaster on wood lath. Floors were thick white pine, random width boards. An interior brick chimney at the eastern end of the room accommodated a wood-burning stove for heat. Interior posts continue to support the second floor beams and belfry framing.

A 1936 HABS drawing of the Academy's floor plan illustrates that many changes were made in 1880 to accommodate its new use as a Town Hall and library. The first floor was divided into separate areas for entry, waiting room, library and Selectmen's meeting room. Each room was finished with plaster walls and tongue and groove ceilings. The Selectmen's meeting room was lined with a "matched boarding, 4 3/8" face horizontal". A beaded horizontal wainscot is still visible in a closet under the front stair. It was probably about this time that parts of the floor were replaced with narrow, tongue and groove fir floorboards in the front entry.

In 1950 a small addition was built at the rear of the structure. It sits on a poured concrete foundation with a concrete slab, and incorporates a second interior stair. A cement block furnace room and bathroom were also added at this time. There may have been an earlier addition, as the 1936 HABS floor plan refers to a "recent addition."

In 1975, a Bicentennial Committee was formed. With funds from the Massachusetts Bicentennial Commission, the Committee stripped and refinished cabinetry. New treads were installed on the original staircase. Over time, the

committee also built new cabinets and bookcases. Walls were painted with scenes of local historic significance. It is unclear when the benches that line the perimeter were installed. They are not indicated on the 1936 HABS drawing. The second floor of the Mt. Everett Academy Building became a local history museum, bringing together 200 years of history.

In 1980, the Town Hall moved to new quarters and the entire first floor became the Egremont Free Library. Many changes were made to the interior of the first floor. Ceilings were dropped and acoustic tile installed. The perimeter walls were sheet rocked and wall-to-wall carpeting now covers the original floors. Walls were removed and closets were added to create the current layout.

Except for the addition of the archive room in the 1950 addition, the second floor layout has changed little since its construction. Its use has changed over the time, having served the Egremont Grange, as a meeting place for the Camp Fire Girls, and as a gathering space for other community groups. The barrel vaulted ceiling, originally plaster on wood lath, is now sheet rocked. The HABS floor plan tells us that the plaster walls were once painted "buff" and wainscot and trim were painted white.

Image 5: The interior of the library on the first floor facing west. The main entrance vestibule door is in the center of the photo.

PAINT ANALYSIS

Introduction

The following report represents the results of field sampling and laboratory analysis of interior paint finishes at Mount Everett Academy in South Egremont, MA. The purpose of this report is to identify the various layers of paint on the walls and trim of the second floor interior, and to determine the closest historically appropriate color match for future painting. The field sampling and report compilation were completed in January 2014 as part of overall building analysis and conditions assessment performed by CME for the town of South Egremont. Sample testing and paint analysis were completed by Lisa Sauer, M.Sc. Historic Preservation.

Process and Methodology

After receiving permission to sample areas of the Academy's second floor interior, five samples were taken from discrete areas of walls, trim and wainscoting, labeled for analysis and then taken to the conservation laboratory at the UMASS campus on the Hancock Shaker Village site for microscopic analysis and paint content analysis. The diagram below indicates the location where the finish samples were taken. (see figure 1).

#1 plaster substrate above baseboard
#2 wood substrate at wainscot
#3 wood substrate at post cladding
#4 cement parging
#5 plaster/fabric ? substrate above wainscot
#6 wood substrate at column

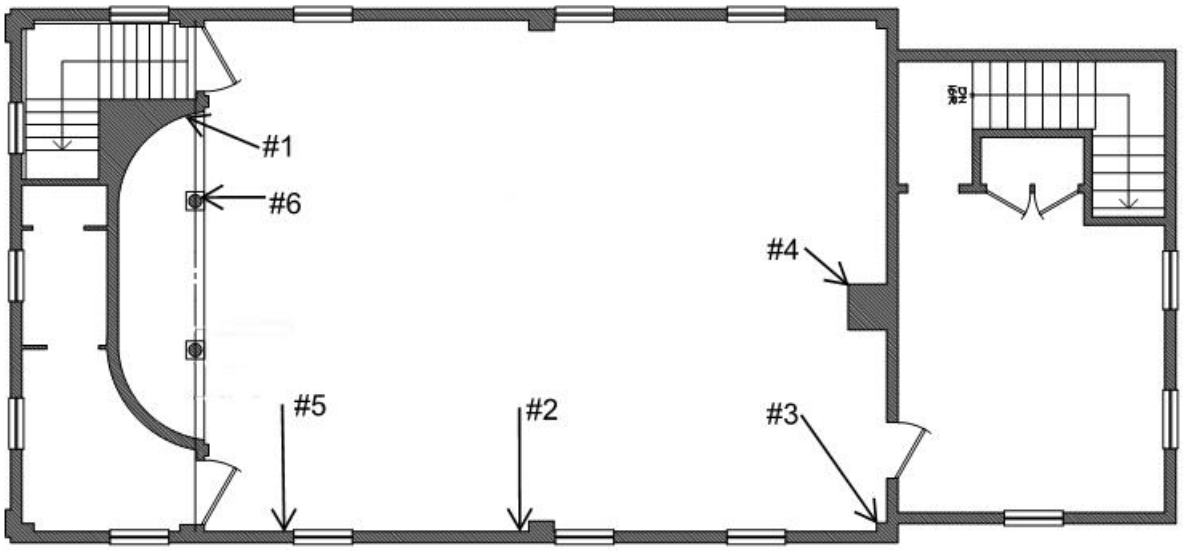


Figure 1: Test sample locations (note: chimney sample 4 was aborted.)

Once in the lab each sample was divided into 5 or more portions. One or more portions of the sample was mounted in wax in a Petri dish and examined microscopically at 10x and 40x magnification to determine number and color of pre-existing paint layers and subsequently photographed for inclusion in this report. Once the layers had been counted and basic colors analyzed, results were then entered into a matrix to help identify a uniform "target" color stratum on the room as it is currently configured – this provided a *terminus post quem* for all additional finishes applied to the room.

After determining the target stratum, color analysis was performed on the samples that were best representations at this layer. Color matching was made using first the Munsell Color Chart, then, after determination was made of the closest match, the Munsell chip was then compared to both Benjamin Moore Co. and Sherwin Williams Co. color samples.

Findings

Each sample removed contained no more than 3 layers of discernible paint. In the case of the green paint samples, there appeared to be fewer than three layers, however actual layers were difficult to differentiate because the earlier paint layer so absorbed the later green application that it was difficult to discern clear divisions between layers.

Findings	Location	Layer 1	Layer 2	Layer 3
Sample 1:	Main stage right	green	cream	white
Sample 2:	E. wall wainscot trim	cream	white	white
Sample 3:	E. wall at post	white	cream	white
Sample 5:	S. wall @ front window	green	No (*)	no
Sample 6:	N. column stage right	white	Tan (shiny)	white

* substrate not plaster, but appeared to be fabric or paper in origin, reacts immediately to water and dissolves. Green paint reacted only to acetic acid indicating latex in origin.

Table 1: Target Layer Matrix

The remaining portions of the samples were then laid on an slide and then tested and examined again at 10x and 40x using the following solutions: water, 5% acetic acid (vinegar), denatured alcohol and mineral spirits in that order to determine whether a reaction occurred. If a reaction did occur, the following matrix was utilized in determining composition:

VEHICLE	APPEARANCE	TEST	REACTION
Oil based (paint/varnish)	may be translucent	water	none
	may be shaved	alcohol	none
		paint thinner	leathery
Latex Emulsion (Paint or Varnish)	Plastic like, resilience	water	None
	(acrylic or styrene)	alcohol	Gummy
		paint thinner	Gummy
Shellac sealer (paint or varnish)	translucent amber	alcohol	Dissolves
	may be pigmented		
Linseed Oil sealer	translucent, may contain glue	water	Crumbly
	may be first coat	alcohol	None
		paint thinner	Leathery
Distemper/Calcimine	may be crumbly	Water/vinegar	Dissolves
Asphaltic	tar like, black or dark brown	mineral spirits	dissolves to black brown liquid

Table 2: Paint Composition Matrix

Individual Sample Results

Sample 1 - Main Stage Right

Figure 2: Sample 1 location

Fig 3: 40x magnification

Visual: Color to naked eye: green: 40x microscopic examination reveals 2 distinct layers: green surface and white subsurface, with a possible third white layer (figure 2 and figure 3). White layer dissolves in 5% acetic acid indicating presence of calcium. Green layer became somewhat leathery with application of paint thinner indicating oil base.

Sample 2 - East Wall Wainscot Trim

Figure 4: Sample 2 test location

Fig 5: 40x magnification

Visual: Color to naked eye: white. 40x magnification reveals 3 distinct layers: cream surface, white in the middle and then a third layer of what appears to be cream but could be primer. Top cream layer, no reaction to any reagents, which could indicate oil based. Third layer dissolves in alcohol indicating shellac or varnish.

Sample 3 - East Wall at Post

Figure 6: Sample 3 test location

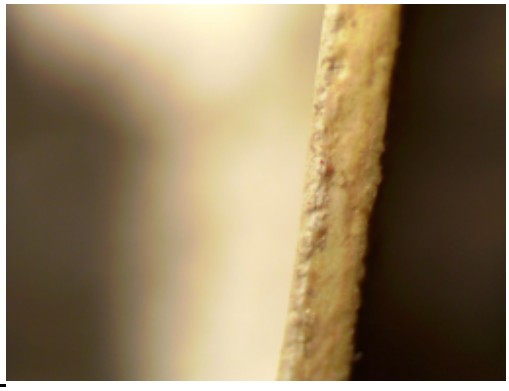


Figure 7: 10x magnification

Visual: Color to naked eye: white. 10 x magnification reveals 3 distinct layers: white surface, cream center and then a third layer of slightly darker version of cream. No layers reacted to any testing reagents other than to be crumbly again indicating oil based paint.

Sample 5 - South Wall @ Front Window

Figure 8: Sample 5 test location

Figure 9: 10x magnification
*note paper like substrate

Visual: Color to naked eye: green. 10x magnification reveals one thick layer of green with perhaps a thin second layer of white. Layer three is all substrate that appears to be either some form of paper or fabric. Green paint again reacted only slightly with paint thinner again indicating oil based while the substrate completely disintegrated in water.

Sample 6 - North Column at Stage Right

Figure 11: Sample 6 test location

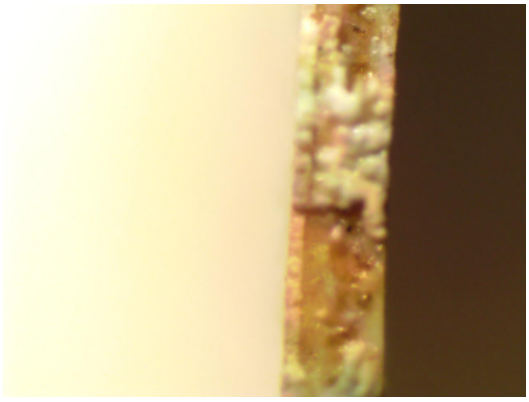
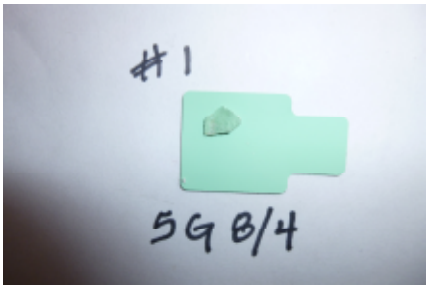


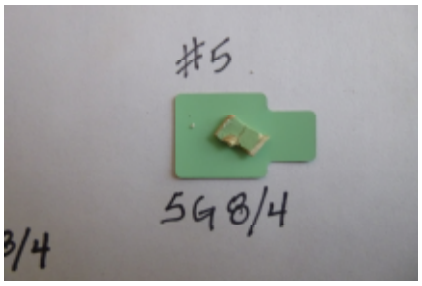
Figure 12: 10x magnification

Visual: Color to naked eye: white. 10x magnification reveals thin layer of white with two lower layers of cream. Center layer could be shellac or primer as it is somewhat shinier than the other samples. Reacts only slightly with any of the reagents so again could be oil based.

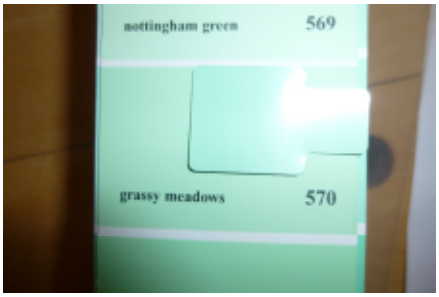
Color Matches

Samples #1 and #5 are both the same color green. Munsell color match are pictured below: (photos on left are taken with flash on)

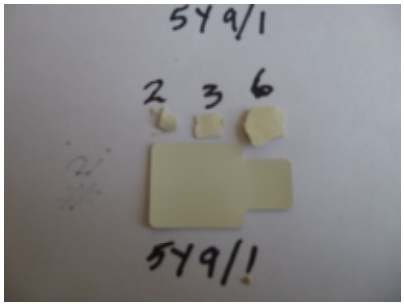




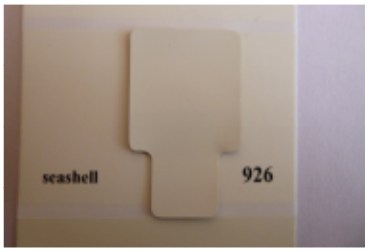
Closest matching Benjamin Moore color choices are pictured below. No accurate Sherwin Williams green was identified.



Samples #2, #3 and #6 were also the same color. Munsell color match is shown below:



Closest matching Benjamin Moore and Sherwin Williams paint matches are as follows:



Conclusion

The most consistently discernable of the two "target" paint strata identified in this analysis is target layer 2. This cream and white paint scheme is in keeping with historical paint of the 1830's-1840, based on the literature for paint colors and motifs for this period. The HABS survey of 1936 indicates that at that time the walls were cream and the wainscot and trim white which layer 2 findings would indicate to be correct. This would be the target stratum to utilize if one were to want to paint the room back to its oldest identifiable color scheme. However it would not be inappropriate for future paint coats to utilize the Layer 1 color scheme as this is the only clearly identifiable layer for all samples tested and this painting now falls within historical guidelines since it was applied in the 1970's when the space became the home of the Egremont Historical Commission and the town's historical artifact collection. Repainting the room green would not only enhance the 50 year old mural but incorporate the 20th century history of the Academy into the historical narrative.

ARCHITECTURAL ANALYSIS OF INTERIOR, EXTERIOR AND SITE

This portion of the report provides a narrative description of the spaces within and outside of the building. Character-defining features, materials and finishes will be identified in the next section.

Interior

The first floor space is accessed through a main, four-paneled, front door that leads to an inner vestibule. Within the vestibule, stairs to the left lead up to a landing; another flight of stairs leads to the second floor. There is a utility closet that houses a defunct safe. The floors in this space appear to be fir and not original. Walls are comprised of sheetrock or similar wall board material. The ceiling finish is composed of a compressed fiberboard ceiling tile set in a running bond pattern. The posts and beams, exposed in the stairwell area, are clad in flat-stock paneling. The front plate has a subtle rounding that creates a quirk where it meets the side plates. While the treads were replaced almost 40 years ago, the risers show wear that indicates they are much older, perhaps original, fabric. Directly across from the front door is a six panel wood door that leads to the library.

The library space is dominated by full height book shelves along the perimeter walls. The partition that laterally divided the space as shown in the HABS drawings remains although the doors and openings have been reconfigured. A sole Tuscan column, similar to those found on the second floor, remains conspicuously in the center of the doorway. Wall-to-wall carpet covers the floor in this space, divided by a threshold in the doorway. The front half of the room is slightly higher than the back half. Examination under the carpet revealed fir flooring similar to that found in the vestibule [Image 4]. Examination of the lower, back half of the room revealed 8” wide plank flooring painted dark gray. While the front half of the room has a ceiling like that found in the vestibule, the back half has a newer false, acoustical ceiling tile. Examination above revealed a light gray colored bead board ceiling [Image 6] and the column top [Image 7]. The walls that are accessible generally appear to be wall board. Timber frame posts are dressed in the manner described at the stairwell. One door leads to a newer mechanical room. A four panel door, with nineteenth century hardware, leads to the rear addition space [Image 8].

Image 6. Wall-to-wall carpeting covers much of the floor in the

Image 7. An early, bead board ceiling finish is concealed by contemporary, false ceiling materials.

Image 8. In the library space, the column capital is concealed within the dropped ceiling space.

Image 9. An early door lock is found on the paneled door that separates the library space in the original building block from that in the 1950 addition. This hardware is consistent with the era of building construction (1830s) or shortly thereafter. This door may have been the original back door to the building.

The rear space is relatively new (circa 1950) with a concrete slab floor, sheet rock walls and ceiling. There is a storage closet and bathroom in this area, bookshelves, and stairs lead up to the second floor. There is some water staining visible on the ceiling in this room. At the top of the stairs is the archive room, also part of the addition. A register on the floor is consistent with the location of the water staining visible on the ceiling below. Two four panel doors, one at the top of the stairs and one in the archive room, lead into the Hall. The flooring in the second floor addition is fir while walls and ceiling are sheet rock.

Image 10. Panoramic view of the west end of the second floor hall.

The second floor Hall is dominated by a vaulted ceiling and elliptical stage area. The stage area features a pair of hand planed Tuscan wood columns and engaged pilasters [Image 10]. This room houses archives, antiques and other ephemera of the Egremont Historical Commission [Image 12]. A layer of sheet rock was added to the ceiling which required recessing the column capitals. The walls feature painted murals that depict the history of the Town of Egremont [Image 11]. A continuous bench runs under the north and south windows and appears to be very old, although it is not detailed in the HABS drawings from the 1930s. A chair rail defines the top of the wainscoting. Timber frame posts are dressed as described earlier. The main floor is comprised of various width planks, some with rather sizable joint spaces. The stage floor is comprised of 12" wide planks, three nails per joist securing them in place. There are two six panel doors at the west end of the Hall; one leads to the front stairs to the right, the other to an area behind the stage. Behind the stage is a two room space that provides access to the attic/belfry. The flooring is like to that described on the stage. Walls and ceiling are plaster and a rope to the bell is visible, suspended through a hole in the floor above. Newer wood shelving stores historic state and local records. Wooden wainscoting covers portions of the wall and ceiling. A contemporary hatch with folding stairs provides access to the attic and belfry.

Image 11. Two of the three murals on the north wall of the second floor hall.

Image 12. The east end of the vaulted second floor hall houses the Egremont Historical Commission archives. Doors access the rear stair and the Commission's offices in the 1950 addition.

Exterior

The existing building was built in two phases. The original Academy building dates to the early 1830s. The second phase is a single-room, two-story high addition at the rear or east gable end of the main (Academy) building built in 1950. The main building is a simple, two-story rectangular box sited perpendicular to the street. It has a shallow-pitched gable roof and a square bell tower at the west end over the entry vestibule. The building typology is that of an early American church or meeting house with precedents going back to the small 17th and 18th century English churches of Wren and Gibbs. These formal precedents were later adapted in wood to create new building types to address the unique needs of American industry and institutions by American builders using carpenters' guides. The addition has a lower gable roof and is recessed-in from the sides of the main building so as not to detract from the original.

Image 13. The primary (west gable) façade is a simple Greek temple front with a closed pediment sitting on tapered, flat pilaster corner boards.

The main building was erected at a time of stylistic change in America. Architects and builders were moving away from the Georgian and Adam style architecture of English-derivation to a new American-derived Greek Revival style. Rural builders such as those in Egremont had access to carpenters' manuals by American architects like Asher Benjamin of Greenfield, Massachusetts, and Edward Shaw. The manuals gave instruction on the geometry of Greek moldings, how to render them in wood and where to use them. The original Academy building has some of the proportions, simplicity and delicateness that characterize Adam-style classicism but is more Greek Revival in its form and use of moldings. Each elevation of the main building is symmetrical. The North and South Elevations are identical [Image 14]. Each has four ranks of 12/12 single-hung sash windows. The East Elevation is largely obscured by the addition but retains two symmetrically placed single-lite attic windows in an open pediment. The primary (west gable) façade is a simple Greek temple front with a closed pediment sitting on tapered, flat pilaster corner boards [Image 13]. It has three 12/12 windows at the second floor and two 12/12 windows and a central door at the first floor. The door encasement has plain pilasters with base and capital moldings and an articulated entablature. There is a prominent elliptical attic fan ornament in the pediment painted deep green [Image 15]. The windows, door, and all trim are white painted wood. The body of the building is white painted clapboard.

Image 14. The North and South Elevations of the original building are identical.

The square bell tower has four identical sides [Image 16]. The base of the tower is painted clapboard with painted wood corner trim and entablature. The eave cornice has flat, painted modillions. The belfry has two engaged flat pilasters with recessed panels painted white that flank a wood-slat louver painted in a contrasting dark green. The pilasters support an entablature with shaped wood dentils at the cornice. The roof is delicately curved up to a tapered point and capped with a square block. It is covered in sheet copper with standing seams. The addition is stylistically neutral. It is made from wood with all windows, doors, trim and clapboards painted white. The roofs of the main building and addition are asphalt shingles. The main building foundation is of locally quarried marble blocks with varying degrees of hand finishing depending on location. The main façade (West Elevation) blocks are evenly leveled with a tooth chisel with fine vertical grooves and have uniform borders with perpendicular grooves [Image 19]. The South Elevation (of secondary importance) is more coarsely but uniformly leveled or scabbled, probably with a mason's pick. Erosion has revealed a lower course of blocks at the South Elevation that are roughly leveled with a pitching chisel. These were not originally intended to be seen [Image 23]. The North Elevation (of tertiary importance) has a rock-faced stone finish like the lower course of the South Elevation. All stones are laid and pointed with flat-struck mortar joints. The East Elevation is now covered by the addition which has a cast-in-place concrete foundation.

The Site

Mount Everett Academy aka Egremont Free Library is located on the east side of Buttonball Lane in the South Egremont National Historic District. The plot is bounded to the north and east by Mount Everett Cemetery, to the south by a single family residence and to the west by Buttonball Lane. The plot is roughly square in shape, mostly cleared of trees and shrubs and relatively flat. There is a gentle rise from the south to the north. It is surrounded by mature trees. The Academy building is the only structure on the site. It is tucked into the northwest corner with a narrow side yard of lawn to the north and set back generously from Button Ball Lane to the west. The building's main axis runs east-west. There is a single run of low fencing along the Lane at the property line. It is symmetrical about the building axis with two panels on either side of a wide, gateless opening that leads to the building's main entrance. There is a paved path of dressed, irregularly-sized but regularly laid white marble slab pavers set directly on the ground between the fence and the building. It is straight and reasonably flat but is becoming engulfed by the surrounding lawn grass. (It was installed after 1930.) The walkway leads up to two broad steps of white marble that are at the building entrance. There is a narrow band of lawn along the south side of the building and the remaining southern half of the site is a paved parking area. The rear yard of the building to the east is lawn.

CHARACTER-DEFINING FEATURES, MATERIALS AND FINISHES

Historic building fabric defines the heritage of our built environment and provides context. It gives a building character, texture and authenticity. Historic fabric is a term used quite regularly in the historic preservation world but defining it is not as easy as one might think. McGraw-Hill's Dictionary of Architecture and Construction defines historic fabric as "those portions of a building fabric that are of historic significance." It would be ideal to point to a definition supplied in the Secretary of the Interior's Standards for the Treatment of Historic Properties but one does not exist.

The Secretary's Standards do address significance, however, as it relates to tangible things like cornices and columns and they identify four strategies for effectively dealing with historic buildings: preservation, rehabilitation, restoration, and reconstruction. The first approach, preservation, is the most desirable and "places a high premium on the retention of all historic fabric through conservation, maintenance and repair." Further: "It reflects a building's continuum over time, through successive occupancies, and the *respectful* changes and alterations that are made."

Respectful is a relatively subjective term and, as it applies to a discussion about the value, significance or integrity of an architectural detail, more subjective still. Merriam-Webster defines respectful as "marked by or showing respect or deference." So, do respectful changes and alterations show deference to the original building? Perhaps not in style, as many nineteenth century buildings feature juxtaposed styles in the form of major alterations, but in the quality of the craftsmanship and the materials used. The dictionary's definition of deference as "a way of behaving that shows respect for … something" is unhelpful unless we view the term esoterically and, in this context, meaning that the newer work is of a quality and standard worthy of standing beside the original.

That would be a convenient conclusion, if not for the fact that the historic preservation world possesses a general aversion to the idea of altering historic buildings, and this inference would seem to indicate that new alterations and changes can be viewed as acceptable if the quality of work is very high. Old alterations and changes to buildings, dramatic as they may have been 100 years ago, are now deemed respectful because they, too, are ancient and reverent. The tangible item that is ancient is automatically awarded respect and shown deference because it is old, and as Ruskin would indicate, becomes sacred. Modifications and alterations to the building, no matter how dramatic they may have been then, are acceptable now and protected. It is the general recommendation of this study that the materials and systems of the building be preserved and changed as little as possible. Materials, features and finishes of significance are identified below.

Interior

All plaster walls and ceilings, architectural woodwork and trim, wood flooring, doors and hardware are significant details and features that the Town should continue to preserve. It is important to note that not all significant building fabric is immediately visible. Indeed, bead board ceilings are covered by drop ceilings, plank floors are concealed by wall to wall carpet, and plaster walls are behind paneling. Any future changes or alterations should plan for the careful preservation of these materials. The building also includes doors that were added after the construction of the 1950 addition and murals that were painted on the walls of the second floor hall. While not "original," they are part of the respectful changes and alterations that were made to the building over time.

Exterior

At the time of this writing there are no earlier visual records of Mt. Everett Academy other than those recorded by the Historic American Buildings Survey during the 1930s. The photographic record from the survey differs from the measured drawings in two significant ways (however, it is assumed that the photographs and measured drawings are contemporaneous):

1. West Elevation door; and,
2. South Elevation windows and fire escape.

By comparing and contrasting both the 1930s photographs and drawings and the 2014 conditions, it is possible to establish a reasonable baseline of historic significance around 1930 for preservation purposes. (It is important to note that the survey drawings are probably most representative of the Academy as it was originally built one hundred years earlier and very closely represent today's condition. The photographs capture newer windows that have since been replaced and a fire escape that has been removed.) The most significant differences between the HABS documentation and today's building is the lack of window shutters in 2014 and the color of the tower roof.

Often times overlooked but of particular importance to the "street credentials" of Mt. Everett Academy are its size, scale, purity of form and symmetry. Any additions to or alterations of the building and landscape should be mindful not to impact these basic, character-defining qualities.

The original subscribers to the Academy put all their resources into the West Elevation and the bell tower. This extends from the Greek Revival profiles of the drip molding over the windows [Image 20] (employed only on this elevation) to the treatment of the stone mentioned earlier [Image 19]. A close comparison of the molding details drawn in the 1930s and the existing conditions reveals that some of the Greek Revival moldings have been replaced over time (some very recently) with non-historically accurate profiles. These include the building and door pilaster bases [Image 18], the cornice moldings over the door, and the trim around the elliptical attic fan. Any future replacements of these or other moldings should use the HABS drawings as a reference. The remaining Greek Revival moldings on the West

Elevation and the tower appear to be original. (The profiles of these moldings can be found in the carpenters' guides by the architects cited earlier which are still in print.) The other significant moldings are the original eave and cornice trim on the remaining elevations that are continued from the West Elevation [Image 17].

Image 15. There is a prominent elliptical attic fan ornament in the pediment painted deep green.

Image 16. The square bell tower has four identical sides. The base of the tower is painted clapboard with painted wood corner trim and entablature. The eave cornice has flat, painted modillions. The belfry has two engaged flat pilasters with recessed panels painted white that flank a wood-slat louver painted in a contrasting dark green. The pilasters support an entablature with shaped wood dentils at the cornice.

All aspects of the bell tower configuration and trim appear to be original with the possible exception of the copper material of the roof. The tower in its entirety is one of the most significant features of the building. Windows and the hand-blown glass should be retained and restored when required. The stone foundation and steps should be retained to the greatest extent possible.

Image 17. The remaining Greek Revival moldings on the West Elevation and the tower appear to be original.

Image 18. A close comparison of the molding details drawn in the 1930s and the existing conditions reveals that some of the Greek Revival moldings have been replaced over time.

Image 19. The main building foundation is of locally quarried marble blocks with varying degrees of hand finishing.

Image 20. The Greek Revival profiles of the drip molding over the windows are employed only on the main facade.

NARRATIVE DESCRIPTION OF INTERIOR AND EXTERIOR CONDITIONS

During the conditions assessments, the various systems of the building envelope were examined for present condition and performance. Each was evaluated in context relative to its importance as an element of the building envelope, assessed based on known, acceptable standards, and described according to subjective terminology. Loosely defined, these terms are:

Excellent the brief moment that a system is brand new or completely restored; this condition descriptor is symbolic only

Very good the next moment, after the new or restored system is completed; regular inspections will suffice until maintenance is required

Good a system that is functioning properly and routine maintenance is needed; painting, replacing shingles and repointing masonry are examples of maintenance tasks

Fair a system that is functioning adequately but work is needed, beyond routine maintenance, to improve system performance

Poor a system that is not functioning adequately; significant work will be needed to restore the system to an acceptable condition

Very Poor a system that is not functioning or absent; wholesale replacement of some or all of the components of the system are necessary

Using the above-described criteria for evaluating conditions, the various tasks to bring all systems to a 'good' or better condition are then described in detail in the *Recommendations* section. The recommendations are for historically appropriate treatments. The criticality of fully restoring each as a functioning element of a building system is also prioritized accordingly. The descriptors assigned to each should be viewed independently and are not assigned relative to importance.

Interior

This section of the report is typically lengthy as much of the older building stock evaluated has been the victim of deferred maintenance or possesses materials and systems that have outlived their useful service lives. That is not the case here as this building has been well-maintained and cared for. The various materials that comprise the walls, ceilings, floors, stairs, and doors are all found to be in fair or better serviceable condition.

The primary item of concern relates to the "checking" visible in one of the wooden columns on the second floor [Image 21]. It is possible that this condition is caused by stresses from the belfry framing loads although solid timber posts such as these hand planed columns tend to check. Secondarily, the water staining at the ceiling in the first floor of the addition corresponds with a heat duct register in the floor directly above. It is likely a result of condensation in the hot air duct above the cool space in the room below.

Image 21. Significant checking is visible in the columns.

Exterior

The building appears to be in very good condition overall. All systems of the exterior envelope—roof, cladding, windows and doors, and paint—are well maintained and appear to be performing their function of keeping the weather out of the building. The foundation appears to be generally sound but is showing the effects of ground freezing in limited areas. This does not appear to be compromising its ability to support the building and maintain its level.

Approximately 30% of the mortar joints have opened to the weather or deteriorated to the point of missing altogether. This is evident primarily on the North and South Elevations. Similarly on these elevations approximately 20% of the stone blocks show signs of settlement and are no longer in contact with the timber sills of the wood frame. The settlement appears in isolated stones on the south side but is concentrated at the west end of the north side [Image 18]. It appears that the settlement is a result of the freeze-thaw cycle which is a pervasive condition in the Northeast.

The north and south sides of Mt. Everett Academy are particularly affected because all of the roof run-off is concentrated at these locations. Additionally, the roof run-off has eroded the earth directly below the drip-line so that the ground slope is no longer directing water away from the foundation and is exposing foundation stone once covered by earth [Image 18]. Splash-back from the roof and stone settlement are the probable causes of the mortar deterioration.

Image 22. Roof run-off has eroded the earth directly below the drip-line so that the ground slope is no longer directing water away from the building.

Image 23. Erosion has revealed a lower course of blocks at the South Elevation that are roughly leveled with a pitching chisel. These were not originally intended to be seen.

One of the two iron handrails at the main entrance is missing. It appears to be recent because the wall patch is visible and un-painted. Water had seeped into the hole drilled into the stone step that secured the other end of the railing. Rust caused the rail to expand and crack-off a large corner of the step (now missing).

All the wooden elements of the building exterior, including clapboard, trim, windows, and doors appear to be in good serviceable condition. There is no visual rot or spongy wood. The paint film is well adhered at almost all locations. There is some minor alligatoring (closely spaced, parallel cracks across the grain) of the paint which is a sign of age while also indicative of good adhesion. Some isolated clapboards have cracks that seem to be well sealed against the weather. There is little rust staining from nails, some of which are square-headed and probably original. Minor opening of the joints between trim and clapboards, such as around the windows and the water table directly above the foundation, are visible but probably disappear when the wood has reached equilibrium with ambient humidity during the summer. There is biological growth and paint damage on the water table and lowest two runs of clapboards on the North Elevation due to constant wetting from the roof run-off. The addition has some peeling paint at the clapboards near the eave at the North Elevation and some biological growth directly above the lean-to over the utility equipment. Window glazing is generally well sealed. Two or three slats of the bell tower louver appear to be detached at one end.

The asphalt roof shingles seem to be in good serviceable condition. They are lying flat and the wear or weather surface is uniform in color (there is some staining on the north side). Drip edges seem to be functioning properly as there is no evidence of run-off having travelled along the underside of the eaves and down the wall. The sheet metal roof of the bell tower appears to be sound.

The exposed bricks of the chimney appear to be well pointed but have probably been rebuilt over the years (corbelling indicated in the HABS documents is non-existent today).

There is copper flashing around the chimney and sheet metal flashing around the tower. The sheet metal flashing appears to be relatively new. It appears that it has been surface nailed over (rather than under) the clapboards and is wrapped around the corner trim. The surface is uneven and the edge is irregular. It should be examined further to determine whether or not it is functioning properly. The chimney flashing appears to have exceeded its useful life. It is worn, separated from the brick and lifted up from the roof.

OVERVIEW OF APPROACHES TO TREATMENT

The Secretary of the Interior provides four distinct but interrelated approaches to the treatment of historic properties. Each is defined, below, so that the recommendations of this conditions assessment can be weighed and considered in context:

> *Preservation* focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time;
>
> *Rehabilitation* acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character;
>
> *Restoration* is undertaken to depict a property at a particular period of time in its history, while removing evidence of other periods; and,
>
> *Reconstruction* re-creates vanished or non-surviving portions of a property for interpretive purposes.

The general recommendation of this report is to preserve and maintain the building as it appears. This means replacement of elements of the various systems that have outlived their useful life. For example, the sheet metal chimney flashing assembly is failing, will inevitably allow water infiltration, and must be replaced. But it must be replaced in kind, with new copper sheet metal that is installed in the same form and dimension as the details and assemblies it replaces.

The issue of mortar joint deterioration with the foundation masonry, and potential paint and wood failures with the windows, carpentry and trim, may be exacerbated by the absence of a roof drainage system. For that reason, we are recommending the installation of period-appropriate gutters and conductor pipes. The photo appendix to this report will clearly illustrate the conditions described herein. The course of action outlined within this document will address these issues in an appropriate manner. All recommendations are in accordance with guidelines set forth by the Secretary of the Interior's Standards for the Treatment of Historic Properties.


The
Egremont Academy
c. 1832

SPECIFIC RECOMMENDATIONS

Roofing and Gutters

The current asphalt shingle roof is not original to the structure. The HABS drawings indicate a wood shingle roof covered the building in the 1930's and it is likely that wood shingles covered the building in 1832. Wood shingles, like slate and clay tile, make roofs water tight, not air tight. Asphalt shingle materials tend to last twenty years on older building stock because of the passive ventilation that characterizes such buildings. In lieu of replacing asphalt shingles with asphalt shingles, should funds become available, a historically appropriate replacement choice is 18" blue label, random width, Western red cedar shingles with 5.5" exposure. Cedar shingles on buildings like this will last for thirty years or more. Cost estimates include all side and end wall detail work, flashing of protrusions, and disposal of old roofing materials.

To combat the uncontrolled runoff, 6" half round, copper gutters should be installed at both locations along the eaves of the main structure. Copper is recommended because it is a sustainable material and historically appropriate. Slip tubes and conductor pipes should be installed at the ends of each gutter run. When calculating drainage capabilities, one square inch of outlet opening is required for each 100 SF area of roof surface being drained. Hence, the 4" outlets are more than adequate as each can service 1,250 SF of roof surface area. Copper wire strainers should be installed at each outlet and checked biannually. If the strainers are maintained and allowed to perform their intended function cleaning the gutters will be limited to the troughs. Otherwise, leaves and debris will find their way into and clog the conductor pipes. If not maintained, gutters will do more harm than good. The introduction of gutters will require a commitment to maintenance of the system. Installation of a roof drainage system will protect the base of the building against damaging splash back which contributes to deterioration of mortar joints during the freeze / thaw cycle and to the growth of algae on lower clapboards and foundation masonry.

Foundation

Empty or failing mortar joints should be repointed as needed. The mortar should be tested for composition and appropriate recipe specified for repointing according to ASTM C-1324-03 Standard Test Method for Examination & Analysis of Hardened Masonry Mortar by a qualified materials conservator. The material must also be sympathetic in texture, color, strength and appearance to that in adjoining areas.

Prior to wholesale use of the new replacement mortar, a mock-up sample should be installed by a qualified craftsperson who understands the curing and application details of restoration masonry work. Once the mock-up sample is installed, appropriate precautions should be taken to ensure that the mortar is protected from wind, sun, rain and frost to enable slow curing to take place. The sample should be allowed to cure in the wall for a minimum of seven but preferably fourteen days before final color match is approved.

The failing and deteriorated mortar joints should be cleared by skilled masons with hand tools—not grinders and powered chisels. Joints should be cleared to a depth of roughly twice the height or width of the opening (i.e., a 3/8" joint should be ¾" deep before repointing takes place.) The mortar should be tooled into the joints in ¼" lifts and allowed to set up until pressing with force is required to leave a fingerprint. Joints should be struck flat, revealing slightly the edge of the facing stone. Any mortar or residue left behind should be cleaned with a brush or sponge and clean, warm water. The new work should be protected from direct sunlight as it cures. Dampened burlap works well to shade the surfaces, and should be wetted regularly to prevent drying out.

Cladding and Trim

Cracked, split, checked, and broken clapboards should be replaced in-kind, especially at the lower levels below the windowsills. Boards that are slightly cupped and lifting can be reused after removing all protruding nails, filling holes and reinstalling clapboards using stainless steel, ring shanked nails.

Fascia, soffit, frieze, brackets, panels, moldings and other wood members must be scraped, sanded, primed, and painted. All actions that involve the handling of wood must be performed in full compliance with the EPA's *Renovation, Repair and Painting* (RRP) regulations by a certified contractor if testing detects the presence of lead. Wooden architectural materials must be replicated in kind with a sustainable wood material.

Azek® and similar PVC composite materials are not acceptable according to the Secretary of the Interior's Standards as in kind materials are commercially available. Best practice generally dictates the specification of Spanish cedar or similar species. All wooden elements and the butt ends of scarf joints must be primed and painted on all sides before installation. Stainless steel finish screws are the preferred choice for exterior wood details. The second, final coat of paint will be applied to new work and repairs during acceptable weather conditions.

Windows

The original wood sash, sills and trim of the fenestration should be restored appropriately and re-glazed when needed. Repairs to wooden windows are usually labor intensive and relatively uncomplicated. The routine maintenance required to upgrade a window to "like new" condition normally includes: some degree of interior and exterior paint removal; removal and repair of sash (including re-glazing where necessary); repairs to the frame; weather-stripping and reinstallation of the sash; and, repainting. These steps are listed for a typical double-hung wooden window, but they are easily adapted to other window types and styles as needed.

Appropriate weather-stripping should be applied on the inside and out. All actions that involve the handling of wood must be performed in full compliance with the EPA's *Renovation, Repair and Painting* (RRP) regulations by a certified contractor if testing detects the presence of lead.

Paint

Paint color analysis should be conducted for wood siding, trim, casings, windows, and doors to determine original color scheme. All actions that involve the handling of wood must be performed in full compliance with the EPA's Renovation, Repair and Painting (RRP) regulations by a certified contractor if testing detects the presence of lead.

When necessary, all paint must be removed to bare wood because the original oil-based coating has alligatored and is holding moisture against the wood. In order to protect the original historic fabric, the least abrasive method possible must be used for paint removal. Pressure washing and sandblasting are inappropriate methods of removal. After paint removal, apply a high quality oil primer followed by two coats of exterior latex paint.

Chimney

Chimneys should be kept clear of paint and biological materials, being careful to use appropriate low acid/alkali cleaners and lowest abrasive method possible whenever cleaning is necessary. Deteriorated bricks must be replaced with new brick similar in dimension and appearance. Mortar analysis should be conducted so that repointing work will employ the use of a mortar that matches the original. Rebuilding and repair of the chimneys should be coordinated with the roofing work to ensure that the protrusions are flashed correctly. It is noted that the chimney appears to be relatively new.

Belfry

Pigeons in the belfry are a health hazard and should be dealt with right away. The pigeons and their droppings should be removed and a barrier installed such as commercial grade bird netting or landscape cloth. The roof surface below the bell, at the level of the hatch, is only partially covered with roofing, and portions of the roof sheathing are exposed. Flat locked seam copper roofing would be a historically appropriate material to replace the asphalt shingles and protect the floor sheathing throughout the belfry and at the belfry wash.

Evidence of deterioration as a result of water infiltration was noted at the base of the NW support posts and adjacent roof sheathing. This post base should be repaired prior to ringing the bell to insure stable conditions within the entire framework of the bell system. Timber repairs may include the use of structural epoxy and reinforcing dowels to splice and connect timber members, and bolted steel plates to strengthen timber connections. Repair of belfry framing and installation of new copper flashing and roofing is included in the construction documents attached to this report.

The bronze bell and metal connectors appear to be in good condition as reported by Church Specialties, LLC. The metal strap connecting the bell to the yoke is sound even though it exhibits signs of oxidation. The yoke is in good condition with no signs of failure of the wood or connections.

Structural

As reported in the following survey of structural conditions by The DiSalvo Ericson Group (TDEG), while the structure is in good condition, there are four main issues regarding structural integrity that should be addressed in the near term; repair of the deteriorated belfry post base in the northwest corner; repair of the two checked wood columns at the front of the meeting hall at the Upper Level; installation of pier supports under the belfry posts in the crawl space and; repair of the floor joist near the Librarian's desk and repair of the beam to sill connection below the front stair. These conditions have been prioritized as "emergency" and the repairs have been delineated in the attached construction documents.

As noted in the preceding paragraph about the belfry, sheet metal flashing and asphaltic roofing cement were installed around the base of the northwest post to protect against water damage. It is recommended that these materials be removed so that the condition of the post can be observed and a repair designed as necessary. The entire belfry floor level and exterior wash should be re-roofed in historically appropriate flat lock fully soldered seam copper roofing with associated flashings and trim as delineated in the construction documents.

The structural report suspects that the weight of the iron safe in the closet under the stair, directly above the sill to beam connection, is responsible for failure of the sill/beam joint. The safe should be removed from the building and relocated to a site near grade in Egremont. In addition to the potential failure of this joint, the belfry load path is not carried down to the foundation but rather applied as point loads to the main beam creating additional stress on this member. As illustrated in the construction documents, new concrete block piers are recommended to be constructed under the main beams to carry the point loads and reduce the span of the main floor beams. Installation of these piers will necessitate temporary removal of floor finishes and floor sheathing for construction access.

The checking in the Doric columns, at the stage on the second floor, which support the belfry structure, is normal for a solid timber. These hand hewn columns are character defining elements of the building and should be preserved. The checking is only visually awkward and can be alleviated by filling the checks with wood consolidant and refinishing the columns. Evidence of the hand hewn finish should not be obliterated in future refinishing.

The noticeable dip in the Main Level floor near the Librarian's desk should be further investigated by removing the floor sheathing to observe the condition of the framing directly below this location. Timber repairs as delineated in the construction documents may include the use of structural epoxy and reinforcing dowels to splice and connect timber members, supplemental framing to "sister" the member or reduce the span, and bolted steel plates to strengthen timber connections.

Other recommendations in the structural report are to inspect the building for insect damage even though none was visible during this review, install a lightning protection system and inspect the functionality of the bronze bell and fittings.

Mechanical and Electrical Systems

The attached report by Salamone and Associates, PC describes existing conditions, identifies deficiencies and proposes upgrades to plumbing, mechanical, electrical and fire safety systems. As stated in the report, many of the upgrades are suggested to make the building more energy efficient as well as compliant with current building, life safety and accessibility codes.

Toilet room fixtures comprise the extent of plumbing in the building. These fixtures should be replaced with energy efficient and ADA compliant equipment at the time of construction of a universally accessible toilet room. It is recommended that the exterior above ground oil tank be replaced as it is nearing the end of its useful life.

"The mechanical system appears to be in good condition with the exception of the furnace breeching and thermostats." The Salamone report recommends removing and replacing the breeching and the thermostats as well as cleaning the ductwork and grills. An optional suggestion to add a high efficiency air cooled condensing unit and coil would provide the building with air conditioning.

Electrical upgrades are recommended to comply with current codes and to provide for energy efficiencies. Upgrades include providing additional emergency and egress lighting, replacing existing lighting with energy efficient fixtures and replacing the existing electric service cable with new conductors routed in conduit. The existing fire alarm system should be replaced as it is outdated and carbon monoxide detectors should be installed in conjunction with the new fire alarm system. As part of the construction of the ADA toilet room, the electric panel may need to be relocated so that it is not housed within the toilet room.

PRIORITIZED TREATMENT RECOMMENDATIONS

Emergency (1-2 years)

Structural stabilization

1. Remove the floor supported cast iron safe in the closet beneath the front staircase to another location outside of the building;
2. Reinforce the first floor beams by adding piers;
3. Repair the joint at the beam / sill location at the safe;
4. Repair broken joist at Librarian's Desk area of first floor;
5. Repair the columns on the stage on the second floor;
6. Repair the post bases and replace roofing in the belfry;
7. Install insect/bird screening behind the belfry louvers.

Exterior stabilization and rehabilitation

1. Remove vegetation and re-grade north wall to allow for positive drainage of roof runoff away from the building;
2. Remove biological growth from north side building surfaces.

Other

1. Adjust direction of emergency lighting heads and replace non-functional fixture;
2. Reroute and secure the internet system wiring on the exterior of the building.

Short Term (3-5 years)

Exterior stabilization and rehabilitation

1. Re-point stone foundation;
2. Re-flash the chimney;

Interior stabilization and rehabilitation

1. Restore the missing timber brace in the attic.

Occupancy

1. Provide ADA compliant route from parking to building entrance;
2. Provide ADA compliant toilet room;
3. Replace the flue breeching at the furnace connection;
4. Replace the thermostats;
5. Replace the electrical service entrance to meet MEC requirements;
6. Install a GFI in the mechanical room;
7. Relocate the electric panel;
8. Replace emergency lighting with self-illuminating units;
9. Upgrade lighting system and switching;
10. Replace existing fire alarm system.

Other

1. Replace the exterior oil storage tank;
2. Clean the ductwork;

3. Install lightning protection;
4. Insulate the ductwork.

Long Term (5 – 10 years)

Exterior stabilization and rehabilitation

1. Replace asphalt shingle roof;
2. Restore windows;
3. Repair cladding and trim;
4. Repaint the exterior.

Occupancy

1. Install air conditioning system (optional)

These recommendations have been compiled from the conditions assessments of all of the consultants including architectural, structural, mechanical, electrical and plumbing. Budget cost estimates for this work follows.

ESTIMATE OF COSTS

Estimates of cost assume that all work is performed by a DCAM certified contractor at prevailing wage rates in compliance with the Davis-Bacon Act. The estimates include the costs to perform the itemized tasks and 20% for a general contractor's fee. An additional 20% has also been identified to account for the costs of an architect and/or engineer's design services but are not included in the overall costs in this construction budget. Design fees can fluctuate by 5% or more and will tend to be higher if the work is phased over time as opposed to a single project.

Similarly, each time a contractor mobilizes there will be associated startup costs and contracting for multiple projects will cost more than a single project. Labor costs were calculated and based on published data in the R.S. Means Guides for commercial construction. Labor rates were then adjusted to the prevailing local wage rates for each task. It should be noted that the Means Guide indicates that a 25% increase in labor pricing should be added for restoration work. Further, there is a scarcity of contractors who are skilled and trained to successfully undertake historic preservation projects.

A 10% contingency was factored in to account for unforeseen conditions that are typically uncovered during the restoration of historic properties. Access costs (i.e., lifts, scaffolding) and markup for overhead and profit are collapsed into the prices below. Material and labor costs are not constant and are subject to uncontrollable economic conditions. Tax rates and workers compensation insurance rates show no sign of decline. The costs projected in this construction budget will increase 3-5% with each passing year.

Emergency (1-2 years)

Structural Stabilization

Interior structural repairs	$30,400
Restoration of the cupola	$62,000
Removal of safe	$ 1,500
Subtotal Emergency	$93,900

Exterior stabilization and rehabilitation

Removal of biological growth	by town forces
Regrade at north foundation	by town forces

Other

Adjust emergency lighting	by town forces
Resecure exterior internet wiring	by town forces

Short Term (3 to 5 years)

Exterior stabilization and rehabilitation	
Repoint foundation	$12,800
Install roof drainage system	$18,600
Interior stabilization and rehabilitation	
Restore missing attic brace	$1,500
Occupancy	
Provide ADA exterior route	$25,000
Provide ADA interior route	$15,000
Provide ADA toilet	$10,000
Upgrades to mechanical	$ 1,000
Upgrades to electrical	$25,000
Replace fire alarm	$10,000
Other	
Replace oil tank	$ 2,000
Clean the ductwork	$ 1,200
Install lightning protection	$ 3,000
Insulate the ductwork	$ 5,000
Subtotal Short Term	$130,100

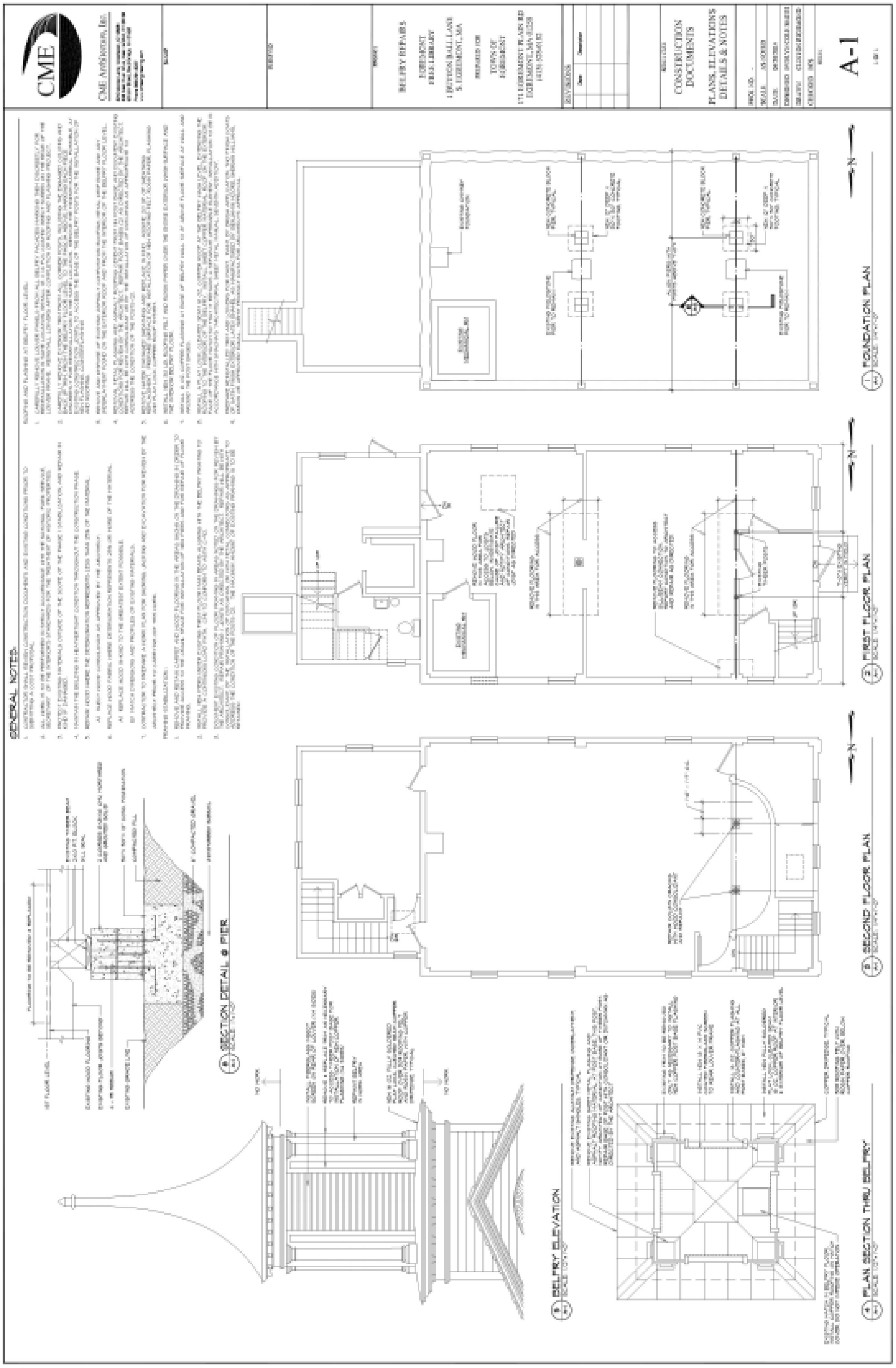
Long Term (5 to 10 years)

Exterior stabilization and rehabilitation	
Installation cedar shingle roof	$72,000
Restore windows	$ 8,400
Repair cladding and trim	$ 9,600
Repaint exterior	$20,000
Occupancy	
Install air conditioning	$ 6,000
Subtotal Long Term	$116,000

CONSTRUCTION DOCUMENTS FOR IMMEDIATE TREATMENTS

Construction documents for immediate treatments have been developed in order to facilitate the repair of primarily structural elements including the strengthening of first floor beams and the repair of first floor timber framing joints and framing members as well as the repair of the second floor stage columns. Additional work is detailed with regard to re-roofing the belfry floor level and exterior wash.

All recommendations are in strict accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.


GENERAL NOTES
FOUNDATION PLAN
FIRST FLOOR PLAN
SECOND FLOOR PLAN
BELFRY ELEVATION
PLAN SECTION THRU BELFRY
SECTION DETAIL @ PIER
CME
A-1

CYCLICAL MAINTENANCE PLAN

The most important component of any plan to preserve a historic structure is maintenance. As soon as a building is constructed or rehabilitated, the natural process of deterioration begins. Preservation has been defined as "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the on-going maintenance and repair of historic materials and features rather than extensive replacement and new construction." (National Park Service, Nationwide Programmatic Agreement Toolkit for Section 106 of the National Historic Preservation Act, glossary of terms)

Regular inspection and maintenance of systems will help preserve the integrity of historic building fabric. If that fabric is maintained, deterioration will be minimized or eliminated. Maintenance is the most cost effective method of extending the service life of a building system. By logical extension, maintenance is the key to preservation. While the decay of components of the envelope cannot be avoided, neglect can actually cause this process to increase at an exponential rate. The use of the wrong materials and methods will often cause worse damage to irreplaceable historic building fabric. Every historic structure, no matter how small, should have a written guide that includes:

Lists and schedules for periodic inspections of each system. These should be set-up in a 'checklist' format, to ensure uniformity of procedures over time;

Blank elevations of the building to be marked up during inspections and after any work takes place;

A full set of actual photographs that comprehensively document the conditions of the entire structure as well as a digital copy of each. This album will grow over time;

A list of contractors who can be called upon in an emergency, especially HVAC, electrician, plumber, and roofer;

Individualized procedures for the historically appropriate handling of the individual systems and materials of the building; and,

Hard copies of completed reports that document all work and inspections. Include copies of estimates, contracts, warranty cards, paint colors, mortar recipes, materials sources, and any other information that will be needed by future stewards of the structure.

When considered in the long term, the cost to maintain historic structures is significantly less than the restoration of historic systems and materials, and it creates far less disruption to building occupants. When a property owner or manager creates a maintenance program for their building, it is strongly recommended that they seek the counsel of a preservation consultant, and/or experienced contractor. The maintenance program should clearly identify and describe courses of action that are specific to the building. A sample Cyclical Maintenance Plan is attached to this document as Appendix E.

Cyclical Maintenance Plan for Mt. Everett Academy

Inspections after a weather event

- Using binoculars inspect the roof shingles and belfry elements for loss of shingles, trim and damage to louvers or copper roofing. Replace or repair as required.
- Inspect the attic for water infiltration and structural integrity.
- Inspect the crawl space for water infiltration.
- Insure that gutters are not clogged with debris.
- Inspect glazing for breakage. Replace as necessary

Semi-annually

- Remove algae growth from building materials with the gentlest cleaning means possible.
- Inspect caulking and weatherstripping at doors and windows. Replace as necessary.
- Inspect gutters and downspouts to insure that they are secured to the structure and are clear of debris.

Annually

- Insure that painted finishes are intact and protecting substrates. Touch up paint as required.
- Inspect mortar joints in stone foundation. Repoint with historically appropriate mortar mixture.
- Inspect condition of foundation stone for cracks and spalling. Repair as required.
- Inspect chimney flashing. Replace if needed when roof is replaced.
- Inspect exterior wall surfaces for damage caused by moisture, structural stress or insects. Repair as condition warrants.
- Insure that light fixtures, signage and any other building mounted objects are secured to the structure and in good condition.

CODE REVIEW

Applicable Codes

2009 International Building Code
2009 International Existing Building Code
2009 International Mechanical Code
2009 International Energy Conservation Code
Massachusetts Amendments
Board of Fire Prevention Regulations (527 CMR)
Board of State Examiners of Plumbers an Gas Fitters (248 CMR)
Massachusetts Electrical Code (527 CMR 12.00)
Architectural Access Board (521 CMR)
ICC A117.1-3 Accessible and Usable Buildings and Facilities

Existing Occupancy:

Use Group A-3: Assembly including Libraries, Exhibition Halls, Lecture Halls and Museums among others.

State Building Code Review

Chapter 34: Existing Structures
3401.1 Scope. Chapter 34 of the International Building Code 2009 is deleted in its entirety. The alteration, repair, addition, and change of occupancy of existing buildings shall be controlled by the provisions of the International Existing Building Code 2009 and its appendices, and as modified with Massachusetts Amendments.

Chapter 11: Accessibility
1101.1 Scope. In accordance with MGL c.22, paragraph 13A, all public buildings shall be designed to be accessible to, and functional for use by, physically disabled persons, and conform to the requirements of 521 CMR…which shall be enforced by the building official or the state inspector, as applicable.

521 CMR: Architectural Access Board (effective July 27, 2006)

3.00: Jurisdiction

3.9 Historic Buildings
An historic building or facility that is listed or is eligible for listing in the National or State Register of Historic Places or is designated as historic under appropriate state or local laws may be granted a variance by the Board to allow alternate accessibility. If a variance is requested on the basis of historical significance, then consultation with the Massachusetts Historical Commission is required in order to determine whether a building or facility is eligible for listing or listed in the National or State Register of Historic Places. The Massachusetts Historical Commission may request a copy of the proposed variance request and supporting documentation to substantiate the variance request and its effect on historic resources. A written statement from

the Massachusetts Historical Commission is required with the application for variance.

CME Comment:
The Egremont Free Library building is not code compliant for Universal Accessibility. The Building is listed in the Inventory of Historic Assets of the Commonwealth and is further included in the South Egremont Village National Register Historic District. This recognition of historic status enables the Town to apply to the Architectural Access Board for a variance that would allow alternate accessibility that is not fully compliant with 521 CMR if full compliance is not achievable.

International Existing Building Code 2009 (IEBC)

The 2009 International Existing Building Code will serve as the basis for code review. This code allows historic properties, those recognized as such by the State or National Register of Historic Places, some flexibility as far as full compliance with current codes. Any new construction must meet current code however. Section 308, Historic Buildings, states that "the provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard".

Accessibility

The library building will not be undergoing a "change of occupancy" or building additions that would trigger full code compliance of all components of the structure. However, the codes will require compliance to the greatest extent possible to provide the following with regard to universal access.

- At least one accessible building entrance
- At least one accessible route from an accessible building entrance to primary function areas.
- Signage complying with Section 1110 of the International Building Code.
- Accessible parking, where parking is being provided.
- At least one accessible passenger loading zone, when loading zones are provided.
- At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.
- Where toilet rooms are provided, the room shall comply with the standards for an accessible family or assisted-use toilet room. The toilet room shall be on an accessible route.

All of these accessibility requirements are readily achievable in the existing building without disturbing the character defining features or building fabric. Access to the primary building function area of the second floor may not be required if alternative provisions can be made to show the currently housed historical collections. If vertical access is desirable to reach the second floor, discussion should take place with the building official as to whether a Limited Use, Limited Access (LULA) lift is

acceptable rather than a full sized elevator. In either case, the building is able to accommodate a vertical shaft at the exterior rear of the building, configured as a gable roofed tower and clad in finishes similar to the existing wood clapboard and trim.

A van accessible parking space can be accommodated on site however an area of the existing gravel parking area will need to be paved and graded to achieve this. A new path of travel from the parking area to the new accessible ramp will need to be developed as well. The new ramp should be oriented to minimize its impact from the road while still serving as a primary entrance to the facility.

The floor level within the rear addition will need to be raised to the level of the main building as there is currently a 7" step between the two. Installing a new floor level will necessitate removing at least the bottom riser of the rear staircase and possibly modifying the entire staircase in order to achieve uniformity of dimension in the risers as per code. The south entrance door and canopy will need to be altered in order to accommodate the new floor height.

Other Code Considerations

The International Existing Building Code devotes Chapter 11 to Historic Buildings and how these buildings may be repaired or altered in a safe way that allows for reuse of the building. The major points of this chapter include the following:

1. Section 1101.2: The code official shall determine if a report by a design professional is required to show that safety features are in compliance with the intent of this code. This may entail a study of load paths through the building with regard to seismic design, and it may "demonstrate how the intent of these provisions is complied with in providing an equivalent level of safety."

2. Section 1102 Repairs: Repairs to any portion of a historic building or structure shall be permitted with original or like materials and original methods of construction, subject to certain provisions.

3. Section 1102.5 Replacement: Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted. Safety glazing is the exception which requires full compliance with the International Building Code.

4. Section 1103 Fire Safety: Historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with Section 1103. Section 1103.12 further states: "Every historical building that cannot be made to conform to the construction requirements specified in the International Building Code for the occupancy or use, and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire extinguishing system." The code official may approve an alternative life-safety system.

The majority of work recommended in this report consists of repairs to the existing structure. Any new additions such as an exterior access ramp, potential elevator tower, and interior alterations consisting of the inclusion of a unisex accessible toilet facility and floor leveling will be code compliant. As such, the IEBC allows for the following:

> Repairs: Repairs shall be done in a manner that maintains the level of fire protection, of protection provided for the means of egress, and the level of accessibility.
>
> Alterations: Alterations shall comply with the requirements of the International Building Code for new construction.

Both of these stipulations are readily achievable.

In summary, the IEBC allows for certain flexibility with regard to historic buildings such as Mount Everett Academy. Compliance with universal accessibility provisions is achievable. Alterations such as new toilet facilities and vertical access can be made compliant with current building codes for new construction.

REFERENCES

American Society for Testing and Materials. Standard Test Method for Examination & Analysis of Hardened Masonry Mortar: ASTM C-1324-03

Chester, Donald A., PE, Structural Inspection of the Egremont Free Library, October 30, 2004

Interview with Susan Bachelder, Egremont Historic Commission

Letter from the South Egremont Historical Commission to MHC, signed by Elliot Snyder, Chair of the Commission, March 5, 2013

Library of Congress, Historic American Building Survey: http://www.loc.gov/pictures/collection/hh/item/ma0505/

Massachusetts Historical Commission, Form B, August 14, 1980

National Park Service. Nationwide Programmatic Agreement Toolkit for Section 106 of the National Historic Preservation Act: glossary of terms

SMACNA. Architectural Sheet Metal Manual. Sixth Edition

"The Archives Room," prepared by Gail Hennessey, Chairman of Archives Committee and Egremont Bicentennial Committee

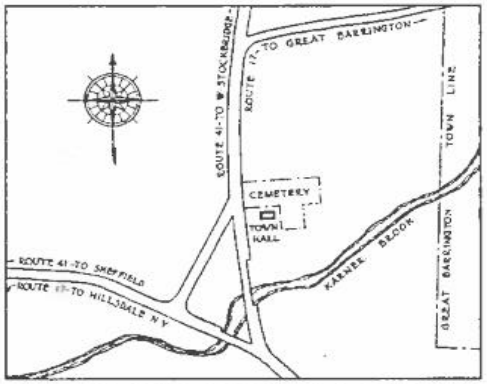
US Environmental Protection Agency. Renovation, Repair and Painting (2010)

Weeks, Kay D., and Grimmer, Anne E. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Illustrated Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. Washington, D.C.: U.S. Government Printing Office, 1995

APPENDIX A
HABS DRAWINGS

TOWN HALL EGREMONT

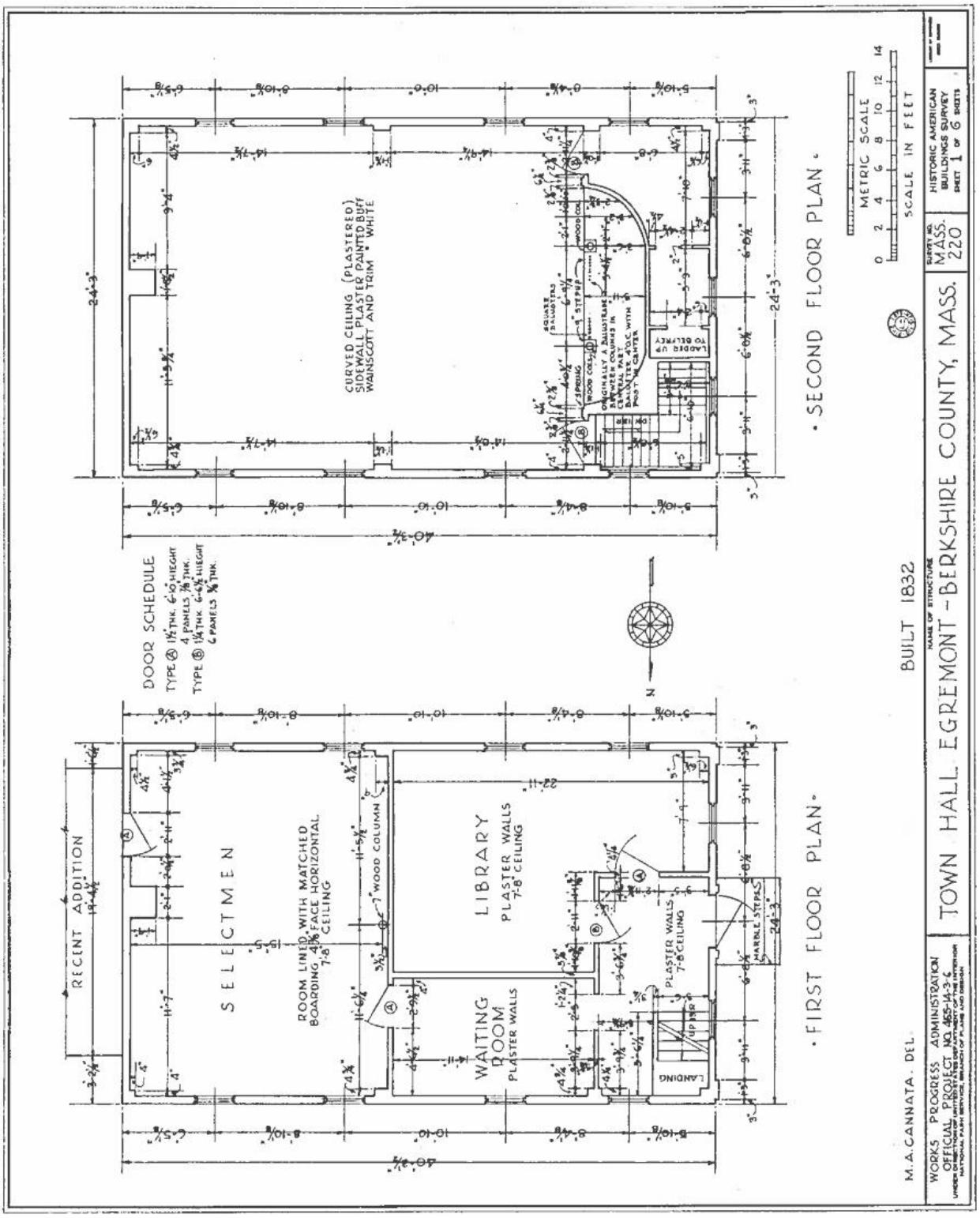
ROUTES 41 AND 17
SOUTH EGREMONT MASSACHUSETTS

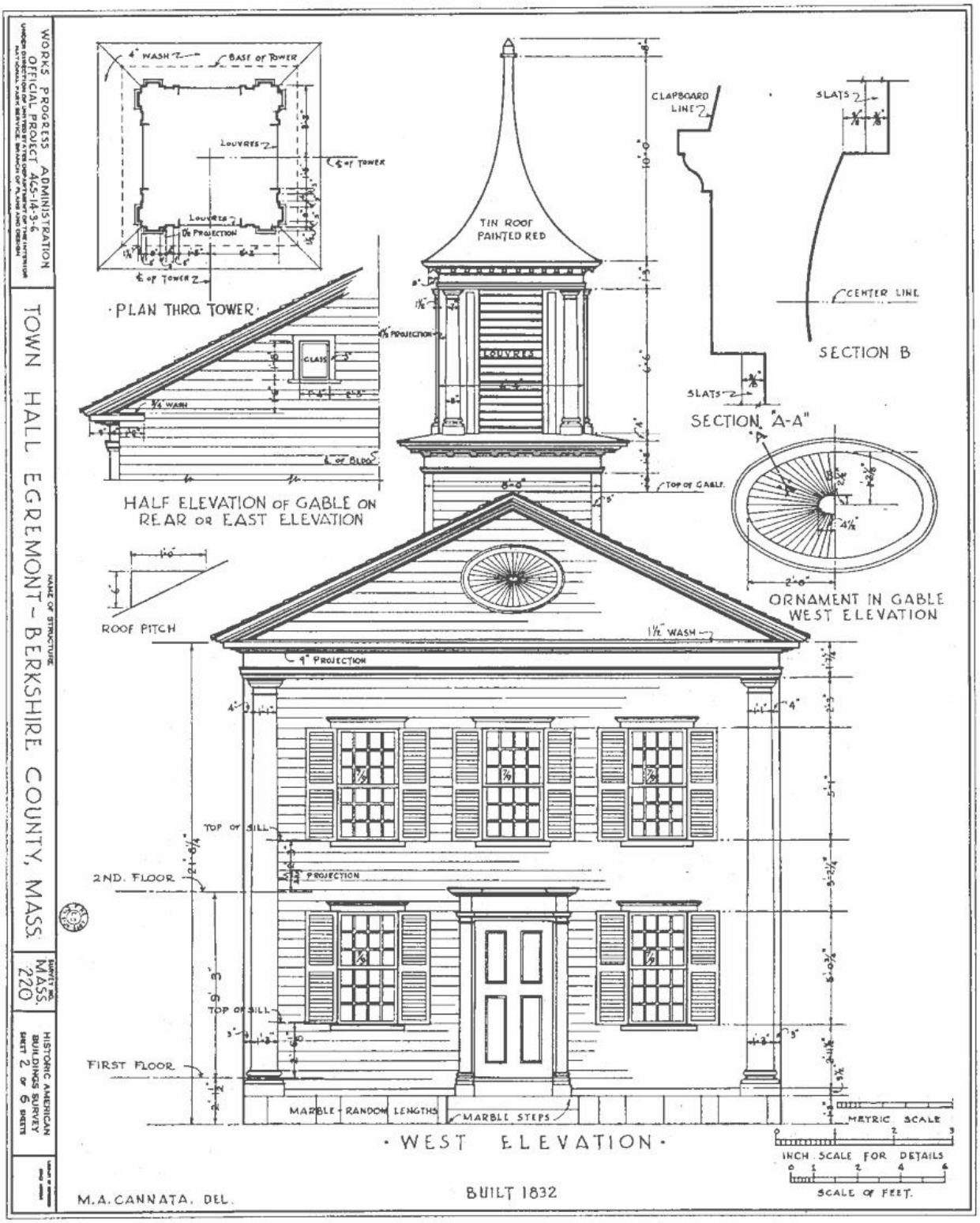


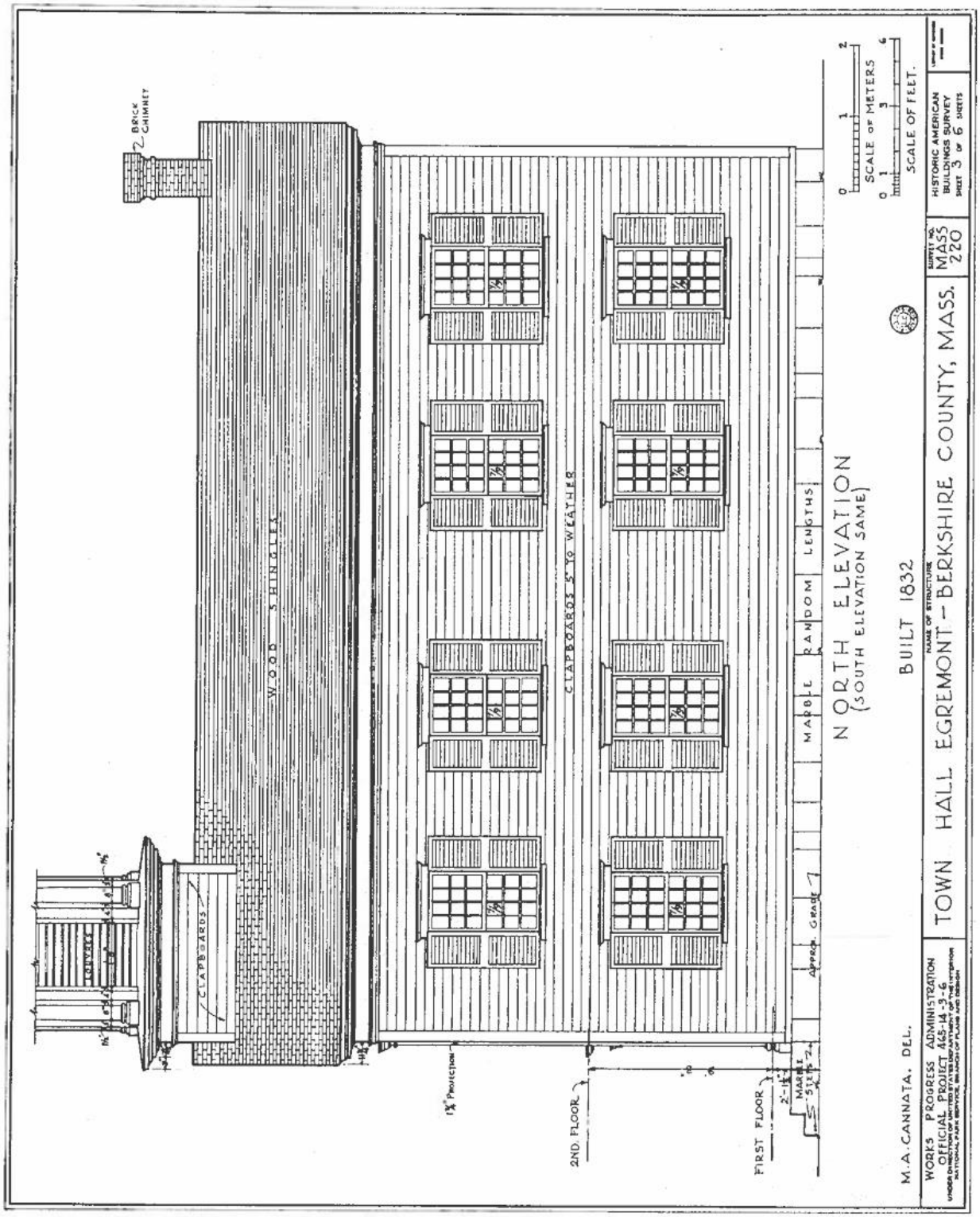
SKETCH MAP SHOWING LOCATION

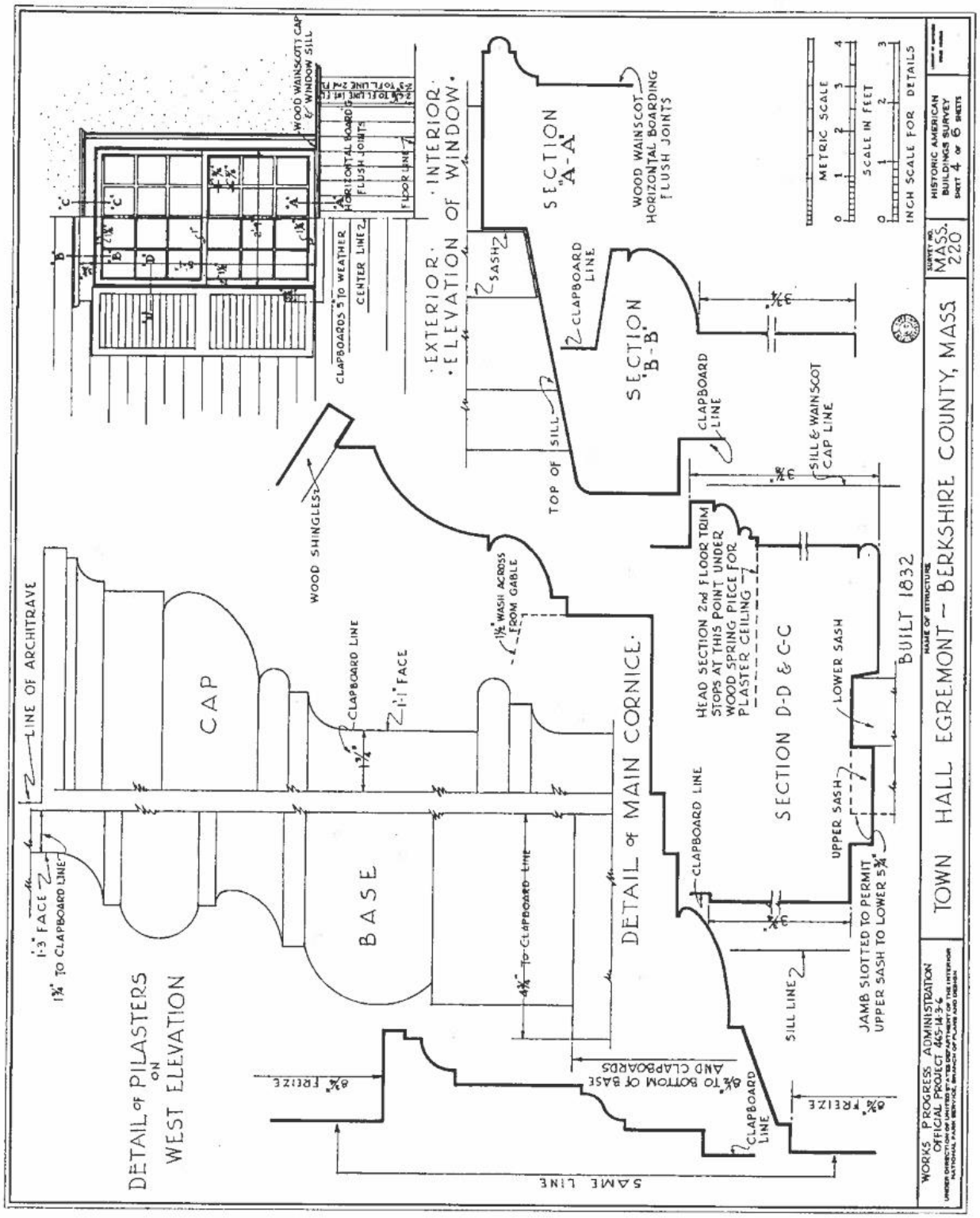
BUILT 1832

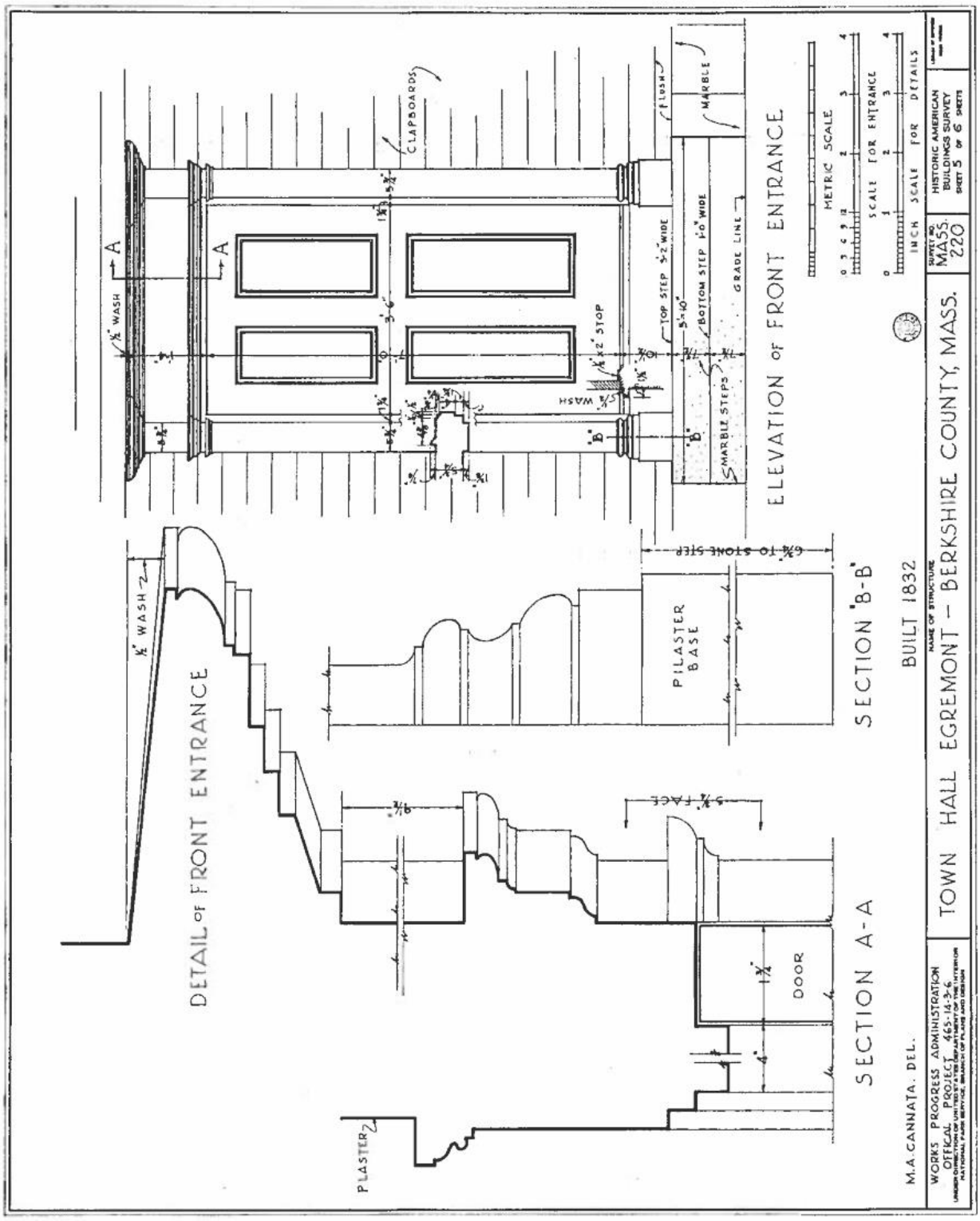
HISTORIC AMERICAN BUILDINGS SURVEY U. S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE BRANCH OF PLANS AND DESIGN	MEASURED: NOV 22 '35 - APR 12 '36 DRAWN: JAN 3 '38 - MAY '38 MEASUREMENTS CHECKED: A I M	DRAWINGS APPROVED: Mary Roberts Rhinehart, DISTRICT OFFICER DRAWINGS APPROVED: Thos. C. Vint, CHIEF ARCHITECT ACCEPTED FOR LIBRARY OF CONGRESS:	DISTRICT NO. 2 MASSACHUSETTS FRANK CHOUTEAU BROWN DISTRICT OFFICER, 16 BRIMMER ST BOSTON MASSACHUSETTS FIELD MEASUREMENTS A-I MACDONALD WILBRAHAM MASSACHUSETTS	SURVEY NO. MASS 220 6-SHEETS	INDEX NO. MASS 2-EGRE 1-

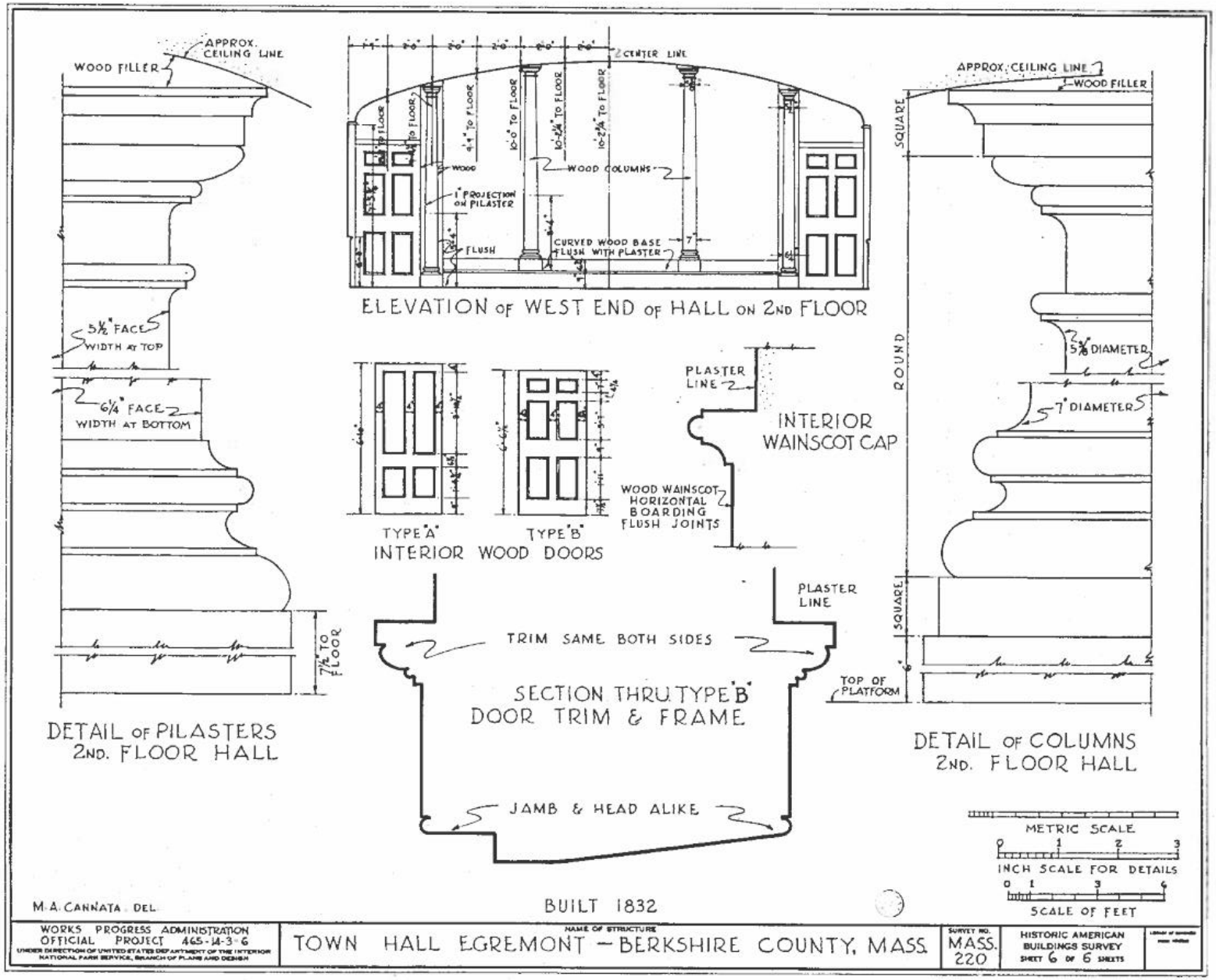

TOWN HALL, EGREMONT - BERKSHIRE COUNTY, MASS.
BUILT 1832
NAME OF STRUCTURE
M.A. CANNATA, DEL.
WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT NO. 465-14-3-6
HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 1 OF 6 SHEETS
SURVEY NO. MASS. 220
SCALE IN FEET
METRIC SCALE
0 2 4 6 8 10 12 14
DOOR SCHEDULE
TYPE (A) 1½" THK. 6'-10" HEIGHT 4 PANELS
TYPE (B) 1¼" THK. 6'-6½" HEIGHT 6 PANELS
CURVED CEILING (PLASTERED) SIDEWALL PLASTER PAINTED BUFF WAINSCOTT AND TRIM - WHITE
SECOND FLOOR PLAN.
FIRST FLOOR PLAN.
RECENT ADDITION
SELECTMEN
ROOM LINED WITH MATCHED BOARDING, 4¾" FACE HORIZONTAL CEILING 7'-8"
WOOD COLUMN
LIBRARY
PLASTER WALLS 7'-8" CEILING
WAITING ROOM
PLASTER WALLS
PLASTER WALLS 7'-6" CEILING
MARBLE STEPS
LANDING
N


WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT 465-14-3-6
TOWN HALL EGREMONT - BERKSHIRE COUNTY, MASS.
NAME OF STRUCTURE
MASS. 220
HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 2 OF 6 SHEETS
PLAN THRO TOWER
HALF ELEVATION OF GABLE ON REAR OR EAST ELEVATION
ROOF PITCH
TIN ROOF PAINTED RED
CLAPBOARD LINE
SLATS
CENTER LINE
SECTION B
SECTION "A-A"
ORNAMENT IN GABLE WEST ELEVATION
TOP OF GABLE
1½" WASH
4" PROJECTION
TOP OF SILL
2ND. FLOOR
FIRST FLOOR
MARBLE RANDOM LENGTHS
MARBLE STEPS
WEST ELEVATION
METRIC SCALE
INCH SCALE FOR DETAILS
SCALE OF FEET
M.A. CANNATA, DEL.
BUILT 1832


BRICK CHIMNEY
WOOD SHINGLES
CLAPBOARDS 5" TO WEATHER
CLAPBOARDS
1½" Projection
2ND. FLOOR
FIRST FLOOR
MARBLE RANDOM LENGTHS
NORTH ELEVATION
(SOUTH ELEVATION SAME)
SCALE OF METERS
SCALE OF FEET.
BUILT 1832
NAME OF STRUCTURE
TOWN HALL EGREMONT -- BERKSHIRE COUNTY, MASS.
SURVEY NO. MASS 220
HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 3 OF 6 SHEETS
M.A. CANNATA, DEL.
WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT 465-14-3-6


DETAIL OF PILASTERS ON WEST ELEVATION
LINE OF ARCHITRAVE
CAP
BASE
1'-3" FACE
1¾" TO CLAPBOARD LINE
CLAPBOARD LINE
2'-1" FACE
1¾"
WOOD SHINGLES
1½" WASH ACROSS FROM GABLE
DETAIL OF MAIN CORNICE
4½" TO CLAPBOARD LINE
8¾" FRIEZE
8¾" TO BOTTOM OF BASE AND CLAPBOARDS
CLAPBOARD LINE
SAME LINE
HEAD SECTION 2nd FLOOR TRIM STOPS AT THIS POINT UNDER WOOD SPRING PIECE FOR PLASTER CEILING
SECTION D-D & C-C
CLAPBOARD LINE
UPPER SASH
LOWER SASH
SILL LINE
JAMB SLOTTED TO PERMIT UPPER SASH TO LOWER 5¾"
BUILT 1832
NAME OF STRUCTURE
TOWN HALL EGREMONT – BERKSHIRE COUNTY, MASS
SURVEY NO. MASS. 220
HISTORIC AMERICAN BUILDINGS SURVEY SHT 4 OF 6 SHEETS
WORKS PROGRESS ADMINISTRATION OFFICIAL PROJECT 465 14 3 6
UNDER DIRECTION OF THE DIVISION OF THE INTERIOR NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN
EXTERIOR ELEVATION OF WINDOW
WOOD WAINSCOT CAP & WINDOW SILL
HORIZONTAL BOARDING FLUSH JOINTS
CLAPBOARDS 5" TO WEATHER
CENTER LINE
FLOOR LINE
SECTION "A-A"
SASH
TOP OF SILL
WOOD WAINSCOT HORIZONTAL BOARDING FLUSH JOINTS
SECTION "B-B"
CLAPBOARD LINE
CLAPBOARD LINE
SILL & WAINSCOT CAP LINE
METRIC SCALE
SCALE IN FEET
INCH SCALE FOR DETAILS


ELEVATION OF FRONT ENTRANCE
CLAPBOARDS
MARBLE
FLUSH
TOP STEP 5'-2" WIDE
BOTTOM STEP 1'-0" WIDE
GRADE LINE
MARBLE STEPS
WASH
STOP
METRIC SCALE
SCALE FOR ENTRANCE
INCH SCALE FOR DETAILS
DETAIL OF FRONT ENTRANCE
WASH
PLASTER
SECTION A-A
DOOR
SECTION 'B-B'
PILASTER BASE
BUILT 1832
M.A.CANNATA. DEL.
WORKS PROGRESS ADMINISTRATION
OFFICAL PROJECT 465-14-3-6
TOWN HALL EGREMONT - BERKSHIRE COUNTY, MASS.
SURVEY NO. MASS. 220
HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 5 OF 6 SHEETS


APPROX. CEILING LINE
WOOD FILLER
5½" FACE
WIDTH AT TOP
6¼" FACE
WIDTH AT BOTTOM
7¾" TO FLOOR
DETAIL OF PILASTERS
2ND. FLOOR HALL
CENTER LINE
WOOD COLUMNS
1" PROJECTION ON PILASTER
FLUSH
CURVED WOOD BASE FLUSH WITH PLASTER
ELEVATION OF WEST END OF HALL ON 2ND FLOOR
TYPE "A"
TYPE "B"
INTERIOR WOOD DOORS
PLASTER LINE
INTERIOR WAINSCOT CAP
WOOD WAINSCOT HORIZONTAL BOARDING FLUSH JOINTS
PLASTER LINE
TRIM SAME BOTH SIDES
SECTION THRU TYPE "B" DOOR TRIM & FRAME
JAMB & HEAD ALIKE
APPROX. CEILING LINE
WOOD FILLER
SQUARE
ROUND
SQUARE
5⅛" DIAMETER
7" DIAMETER
TOP OF PLATFORM
DETAIL OF COLUMNS
2ND. FLOOR HALL
METRIC SCALE
INCH SCALE FOR DETAILS
SCALE OF FEET
M. A. CANNATA. DEL.
BUILT 1832
WORKS PROGRESS ADMINISTRATION
OFFICIAL PROJECT 465-14-3-6
UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN
NAME OF STRUCTURE
TOWN HALL EGREMONT — BERKSHIRE COUNTY, MASS.
SURVEY NO.
MASS. 220
HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 6 OF 6 SHEETS

APPENDIX B
STRUCTURAL CONDITIONS SURVEY

REPORT OF STRUCTURAL CONDITION SURVEY

EGREMONT HISTORIC FREE LIBRARY
1 BUTTONBALL LANE
SO. EGREMONT, MA

Prepared by
The Di Salvo Ericson Group
Structural Engineers, Inc.
63 Copps Hill Road
Ridgefield, CT 06877
(203) 438-9581
www.tdeg.com

Project No. 13365.00
January 31, 2014, *Revised May 27, 2014*

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THE DESCRIPTION OF THE STRUCTURE **2**

OBSERVATIONS OF THE EXISTING CONDITIONS **3 - 4**

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LIMITATIONS **7**

APPENDIX

- **PHOTOGRAPHS OF EXISTING CONDITIONS**
- **KEY PLAN**
- **PREVIOUS REPORT BY OTHERS**

INTRODUCTION AND EXECUTIVE SUMMARY

The Di Salvo Ericson Group was retained by CME Architecture, Inc. of Woodstock, CT to review the general condition of the structural elements of the Egremont Historic Free Library on 1 Buttonball Lane in South Egremont, MA. The purpose of the review was to determine the suitability for future use of the building, identify structural deficiencies, and recommend requirements for the repair of the conditions noted.

The investigation consisted of a walk-around survey of the exterior of the building and the accessible portions of the interior, including the crawlspace, first floor, second floor, attic, and belfry.

In our opinion, the building has been well maintained and is in generally good condition. The conditions noted are typical for a building of this use and vintage, and the recommended remedial repairs should be considered routine maintenance and preservation measures for this unique structure.

The building is safe for current occupancy and use. Repairs to specific portions of the building are recommended including repairs to the belfry roofing, repairs of the timber framing below the belfry, ~~removal~~ *repair* or replacement of the wood posts in the Meeting Room, installation of additional supports in the crawlspace, and the replacement of stone piers and installation of a slab on grade in the crawlspace.

Additional investigation is recommended to determine if and to what extent active insect infestation is occurring, the feasibility of installing a lightning protection system, and to verify the functionality of the bell stand equipment.

The basis for this opinion, specific details, recommendations, limitations and qualifications regarding our findings are stated in the remainder of this report.

PURPOSE

The purpose of this report is to summarize the results of our review of the condition of the structural elements of the building. The purpose of the review was to determine the suitability of the building for occupancy, identify structural deficiencies, and recommend requirements for the repair of the conditions noted.

THE SCOPE OF THE INVESTIGATION

The investigation consisted of a walk-around survey of the exterior of the building and the accessible portions of the interior, including the crawlspace, first floor, second floor, attic, steeple, and belfry. The survey was conducted with Evelyn Cole Smith AIA, CME Architecture, Inc. on January 7, 2014.

THE DESCRIPTION OF THE STRUCTURE

The building was constructed in 1832 as the Mount Everett Academy, a school house for higher education. The building is constructed of a blend of hand hewn and rough sawn post-and-beam timber framing with traditional pegged mortise and tenon joinery. The two-story building includes a main level over a crawlspace and an upper level with a vaulted ceiling. The crawlspace is accessed by an interior hatch under the front stair. The supports in the crawlspace consist of dry laid stacked stones. The foundation walls consist of stacked cut stones. The floor of the crawlspace is dirt. In 1950 a conventionally "stick" framed two-story addition was constructed in the rear of the building.

An access hatch and pull-down ladder at the front of the upper level provides access to the attic. The roof framing consists of wide plank sheathing supported on sawn rafters and hand hewn timber purlins and trusses. A wooden stair in the attic provides access to the belfry hatchway immediately below the bell. The belfry is framed with timber beams and timber columns. The belfry level is partially enclosed by wooden louvers on all four sides. The bell is supported by wood timbers with metal connectors.

OBSERVATIONS OF THE EXISTING CONDITIONS

Building Exterior

The building exterior includes painted wood clapboard siding and trim. The condition of the exterior is what would be expected for a building of this construction and vintage. The exterior painted wood siding and trim is in generally good condition. No evidence of structural distress or significant deterioration was noted.

Belfry

The belfry level is comprised of the original timber framing. It is exposed to the weather as a result of the louver panels between the perimeter support posts.

The bell is supported on wood timbers that appear to be original and are connected to the perimeter support posts with metal brackets. The wood timbers and metal brackets are in fair condition. The bell wheel and yoke appear to be in operable condition.

The roofing on the belfry level is in poor condition. The roof surface below the bell, at the level of the hatch, is only partially covered with roofing, portions of the roof sheathing are exposed. The flashing at the base of the perimeter support posts is missing and requires repair. Evidence of deterioration at the base of the support posts and roof sheathing was noted, presumably as a result of water infiltration. Evidence of structural distress was noted at the northeast corner of the belfry level timber framing, presumably as a result of water infiltration.

The louvers do not include screens to keep out wildlife. A lightning protection system was not noted in the belfry.

The belfry exhibits a noticeable lean towards the rear of the building. *The lean of the belfry is most likely attributable to the displacement of the Main Level floor beam, see below.*

Attic

The attic level is comprised of the original timber framing. The timber framing is in generally good condition. No evidence of structural distress, deterioration, or active water infiltration was noted. It appears that a timber brace at the middle portion of the attic was previously cut and removed, presumably to allow easier access to the rear portion of the attic. Evidence of previous wildlife activity in the attic was noted.

Upper Level and Main Level

The condition of the interior finishes is typical for a building of this construction and vintage. Cracked plaster and uneven floors were noted in isolated locations throughout. No evidence of significant structural damage or deterioration was noted except as follows:

- At the Upper Level, the two wood columns at the front of the meeting hall exhibit significant vertical cracks along the full height of the column.
- At the Main Level, near the Librarian's desk, a noticeable dip occurs in the floor.
- At the Main Level, near the hatch to the crawlspace, the floor slopes noticeably towards the rear of the building.

OBSERVATIONS OF THE EXISTING CONDITIONS, CONT'D.

Crawlspace

The condition of the crawlspace is typical for a building of this construction and vintage. The Main Floor framing is comprised of the original timber framing. The timber beams bear directly on the loose laid flat stone piers. The surface of the dirt floor is irregular.

Access into the shallow crawlspace was limited to the location of the hatch due to the low headroom. Therefore, observations of particular conditions were limited to the hatch vicinity. The timber framing that was viewed is in generally good condition; no significant areas of structural distress or deterioration were noted.

OPINION AND RECOMMENDATIONS

In our opinion, the building has been well maintained and is in generally good condition. The conditions noted are typical for a building of this use and vintage, and the recommended remedial repairs should be considered routine maintenance for a building of this vintage.

The evident lean of the belfry is most likely attributable to the displacement of the Main Level floor beam that supports the timber posts from the belfry above. *In our opinion the belfry is currently stable, however repairs to restore deteriorated timber framing and its' weatherproof integrity are required.*

Current Use

The building is safe for current occupancy and use.

Recommended Repairs

The repair of timber framing members and their connections can be done in a variety of ways depending on the specific condition. Timber repairs can include the use of structural epoxy to patch deteriorated areas, structural epoxy and reinforcing dowels to splice and connect timber members, supplemental framing to "sister" the member or reduce the span, and bolted steel plates to strengthen timber connections.

Recommended repair work includes the following, the specific details and specifications for the repair work are beyond the scope of this report:

Building Exterior

The exterior finishes will require routine maintenance at regular intervals including painting of wood siding and trim, re-pointing deteriorated joints between foundation stones, and repair and replacement of roofing shingles. The age of the roofing is unknown, but, in general, asphalt roofing shingles have an expected service life of approximately 20 years.

Belfry

The deteriorated timber framing at the belfry level should be repaired or replaced. The louver panels should be fitted with screens to prevent ingress by wildlife, etc.
The bell support framing hardware should be surface prepped and painted with suitable exterior paint to protect it from the elements.
The bell stand (yoke, axle, wheel, etc.) should be reviewed by a qualified bell repair and restoration company to determine if, and to what extent, repairs are required.
The belfry post bases should be re-flashed and the roofing should be repaired by a qualified roofing contractor to protect the wood framing below and to extend the remaining service life.
The damaged timber framing at the northeast corner of the belfry level should be repaired to restore it to its original integrity. The deteriorated roof sheathing should be removed and replaced.

OPINION AND RECOMMENDATIONS, CONT'D.

Attic
No structural repair work is anticipated at the typical roof framing in the attic level. The removed timber brace should be replaced to restore the framing to its original configuration. The point(s) of ingress for wildlife should be eliminated.

Upper Level and Main Level
The two cracked wood columns at the front of the meeting hall at the Upper Level should be repaired or replaced in kind.

The noticeable dip in the Main Level floor near the Librarian's desk should be further investigated. This could be accomplished by removing the floor sheathing in the vicinity to observe the condition of the framing directly below this location. *The repair of this condition will most likely require the installation of supplemental timbers to strengthen/replace the damaged framing, and/or the installation of additional supports at the mid-span of the affected joists and girders.*

The noticeable slope in Main Level floor should be addressed by providing additional supports under that timber beam and in alignment with the timber posts from above that support the belfry. The additional supports could consist of masonry piers, steel pipe columns, or preservative treated wood posts. New concrete footings should be provided at the post locations.

For practical reasons, the floor mounted steel safe currently located in the closet near the floor hatch should be removed from the building or relocated to the slab on grade portion at the rear of the building.

Crawlspace
The limited headroom in the crawlspace will make it difficult to implement repair work. The loose laid flat stone piers may not continue to provide reliable service into the future, so removal and replacement should be considered. The new piers could consist of mortared masonry, steel pipe columns, or preservative treated wood posts. New concrete footings should be installed under the replaced pier locations.
The crawlspace should be cleaned and a concrete slab over vapor barrier should be installed throughout.

Additional Investigation
Additional investigation is recommended to further assess specific conditions, including the following:
1. A thorough inspection of the entire building should be made by a qualified insect exterminator to determine if, and to what extent, insect infestation has occurred and whether or not there is active ongoing insect infestation.
2. A qualified lightning protection company should be consulted to provide an opinion regarding the feasibility of installing a lightning protection system.

Additional Investigation, cont'd

3. A qualified bell repair and restoration company should be consulted to provide an opinion regarding the functionality of the bell stand (yoke, axle, wheel, etc.) to determine if, and to what extent, repairs are required.

LIMITATIONS

1. This report is based on our visual observations of conditions that were readily accessible at the time of our review. Conditions may exist which are hidden from view that could affect some of the recommendations contained in this report. The recommendations and conclusions reached, therefore, are subject to revision if and when additional evidence or information is available.
2. The findings associated with this report are limited to the condition of the visible structural elements. We did not review any other elements of the architectural, structural, mechanical, electrical, plumbing or fire protection systems, and no opinion regarding the adequacy of these systems is implied or intended.
3. Our investigation of the condition of the building was not exhaustive. As is common for this type of service, we limited our review to typical elements that were repetitively used. This report does not express or imply a warranty of any of the building elements or of the entire structure.
4. This report does not include the discovery, testing, monitoring, handling, removal, or disposal of, or exposure of persons to, hazardous materials in any form at the project site, including, but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic substances.

End of Report

Submitted by
The Di Salvo Ericson Group
Structural Engineers, Inc.

Bruce D. Richardson, P.E.

APPENDIX

PHOTOGRAPHS OF EXISTING CONDITIONS

KEY PLAN

PREVIOUS REPORT BY OTHERS

South Elevation

Front (west) Elevation

Front Detail

Front Steps

Front Detail

Front Detail

Belfry Interior – looking up to underside of Roof

Belfry Interior

Bell and support framing

Bell and support framing

Bell Wheel

Bell Support Framing and Belfry Corner Post

Belfry Post and Louvers

Belfry Corner Post and Louvers

Belfry Post Base

Belfry Post Base

Belfry underside

Belfry underside

Typical Roof Framing in Attic

Typical Roof Framing in Attic

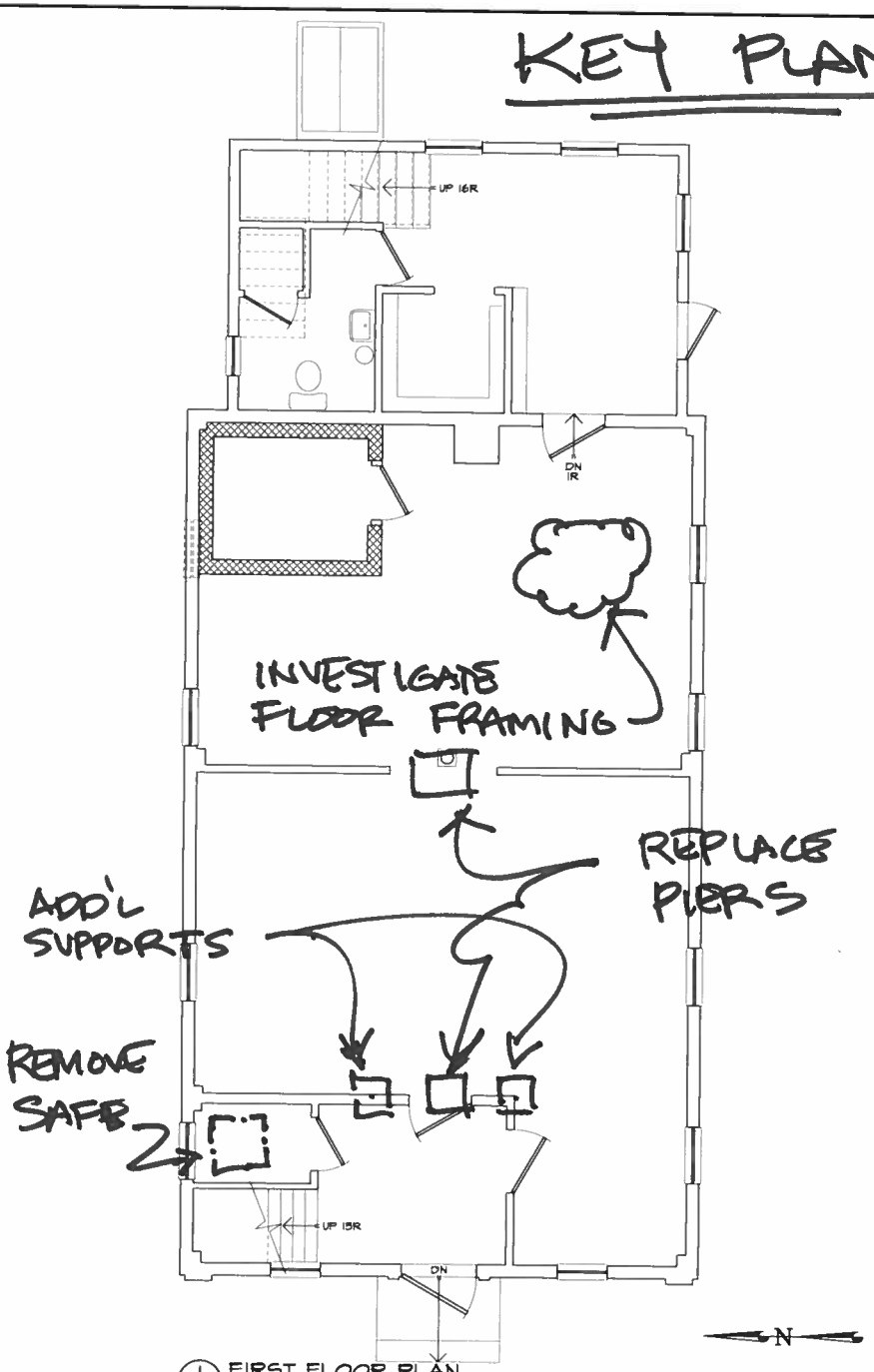
Crawlspace

Crawlspace

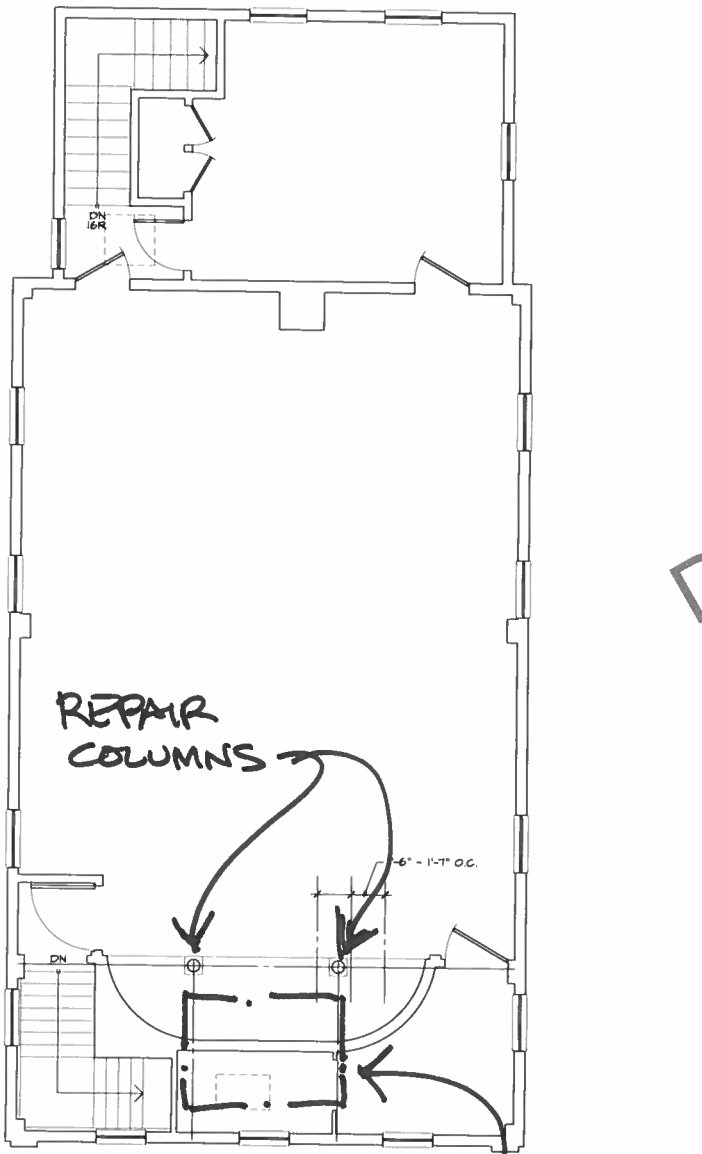
Crawlspace

Crawlspace

KEY PLAN - STRUCTURAL REPAIRS



1 SK-1 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"



2 SK-1 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"

CME

CME Architecture, Inc.

32 Crestmere Lane, Woodstock, CT 06281
333 East River Drive, East Hartford, CT 06108
50 Elm Street, Southbridge, MA 01550
Phone 866-291-3227
www.cmeengineering.com

STAMP

PROJECT

EGREMONT HISTORIC FREE LIBRARY

1 BUTTON BALL LN
S. EGREMONT, MA

PREPARED FOR

TOWN OF EGREMONT

171 EGREMONT PLAIN ROAD
EGREMONT
MA 01258
(413) 528-0182

DRAFT

REVISIONS

	Date	Description

SHEET TITLE

FIRST & SECOND FLOOR PLANS

PROJ NO.	-
SCALE	AS NOTED
DATE	January 10, 2014
DESIGNED	-
DRAWN	Clinton Richmond
CHECKED	-

SHEET

SK-1

1 of 2

Church Specialties, LLC

PO Box 628, East Poultney, VT 095741 Toll Free 1-888-570-1042 Fax 1-866-874-9320

Or

632 Hopkins Mill Road, Quarryville, PA 17566 1-888-570-1045 Fax 1- 866-595-3287

BELL SURVEY INSPECTION SHEET

Church: _____

Address: _____

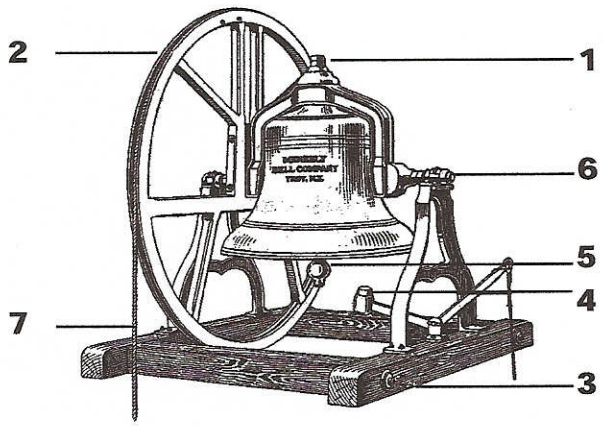
City: _____ State: _____ Zip: _____

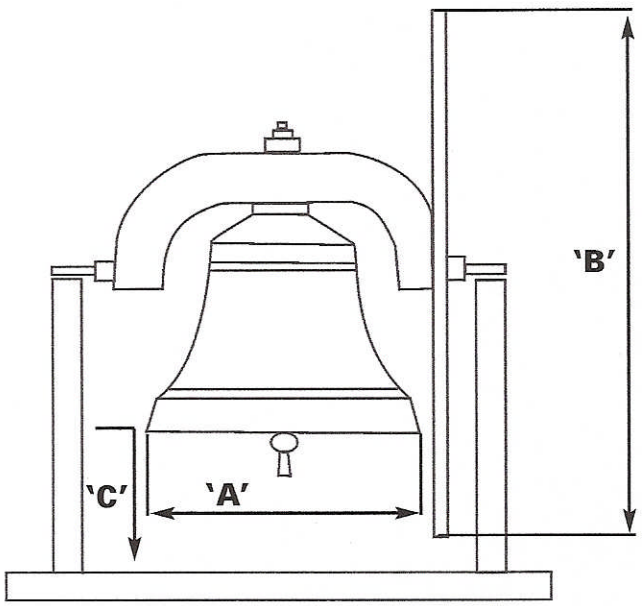
Contact Person: _____ Tel: _____

Email address: _____

A photograph of the bell would be helpful

If you have a Swinging Bell installation, this is what should be checked:





BELL: Foundry: _____

Date: _____

A. Diameter of Bell: _____

B. Diameter of Wheel: _____

C. Bottom of bell to top of support beam: _____

1. Bell loose in yoke. Yes_____ No_____ How many bolts _____
2. Wheel loose - pulling apart Yes_____ No_____ Wood _____ Steel _____
3. Frame deteriorating Yes_____ No_____ Dimensions _____ x _____
4. Tolling hammer bent - loose fit Yes_____ No_____
5. Clapper loose - spring leaves broken Yes_____ No_____

   Clapper Spring: Whole_____ Broken_____
6. Axles worn and loose Yes_____ No_____
7. Rope rubbing on floor or projections Yes_____ No_____

General Comments: _____

New Cast Bronze Church Bells

Pre-Owned Bells

Church Bell Restoration

Automatic Bell Ringing Equipment

Electronic Carillons

Church Steeples

Cupolas

Street Clocks and Post Clocks

Clock Towers

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Church Bell Restoration

The Duffy family of Church Specialities. has long been recognized as the premier church bell repair and restoration company in the country. We service existing historic bells or remount them in safe, sturdy steel mountings, upgraded with electric ringers and controls. Our mission is to assure the safe, proper and continued use of the valuable historic church tower bells, drawing on time honored bell making traditions augmented by the newest technologies as they prove their usefulness. No project is too large or small. Our extensive client list is available upon request. You will undoubtedly recognize and know many of our happy customers.

While our expertise is Meneely Bells, we have worked on McShane, Hooper, Blake, Royal Eijsbouts,Petit & Frtizen,VanDuzen, Paul Revere, Piccard, Taylor, Verdin, Schulmerich, Stucksteede and many more historic bell foundries.

St. Paul United Methodist Church
Newport, Rhode Island
This historic bell was cast by the Henry N. Hooper & Co. in 1833. We fabricated, delivered and installed a new yoke and wheel.

1833 Hooper Bell in new wooden yoke and wheel

Demarest Fire Department
Demarest, New Jersey
Original Fire Department Bell Cast by Meneely Bell Company. Troy, NY 1896 was restored to original condition

1896 Meneely Bell restored

Wayne Presbyterian Church
Wayne, Pennsylvania
Bronze Bell remounted in new structural steel "A" stands, with new yoke and wheel.

Bell in new structural steel headpiece, "A" stands and wheel

Structural Inspection Report

for the

Egremont Free Library

Prepared for:

The Board of Selectmen
The Library Trustees

Prepared by:

Donald A. Chester, P.E.
November 11, 2004

Revised submittal

Donald A. Chester, P.E.
16 Farm Lane
Great Barrington, MA 01230
(413) 528-4614

November 11, 2004.

Philip J. Reilly, Chairman
Egremont Board of Selectmen
Town Hall
P. O. Box 368
South Egremont, MA 01258

RE: Structural Inspection, Egremont Free Library, Round 2

Dear Phil:

On Wednesday, November 3, 2004, I revisited the site at the Egremont Free Library building in South Egremont, for the purpose of performing a structural inspection of the building foundation and flooring system. Nick Ball met me and accompanied me into the building.

Access to the crawl space under the flooring system is difficult. Creighton Brown was called in prior to my second visit, and he had cut a hole in the floor of the front hall closet into which I could gain access to the underside of the flooring system.

I submit the attached report (*Revised Submittal*) in triplicate summarizing my final observations and recommendations as a result of the site visits. Please distribute as you see fit, and if you need more copies, please let me know.

I am always available and would be most willing to return to the facility to conduct further inspections and/or discuss my findings with you, any of the Boards, or other consultants. Please do not hesitate to contact me.

Respectfully Submitted,

Donald A. Chester, P.E.

Donald A. Chester, P.E.

Egremont Free Library
Structural Inspection

Background and Existing Conditions.

The building was erected in 1830, and an addition was built at the rear of the main building in 1950. The structure has no basement; there is a block granite foundation wall around the perimeter of the main building and a cast-in-place concrete foundation wall around the addition.

The flooring system is a composite of 5±" Ø hand hewn wood floor joists on 12±"Ø hand hewn wood floor beams with 1" continuous floor decking. There are two main floor beams about 13±' apart, the spacing for the eight floor joists varies from 2' to 3'. The beams are supported at mid-span by piers constructed of field stone.

Observations.

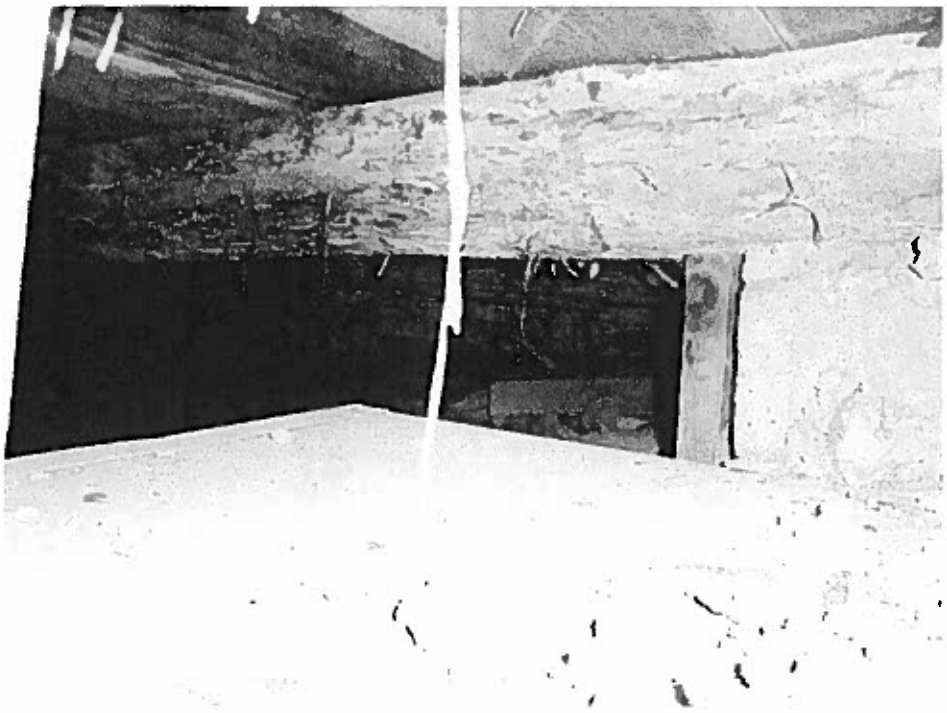
The structure overall appears to be in good condition. There is no evidence of decay, dry rot, insect infestation or differential settlement in any specific areas. Some of the floor joists, more so at the south end of the building, exhibit delaminating of the outer layers of the wood members. All interior and exterior walls and roof members appear to be plumb, level, true and in generally good condition. One area of floor, in the main room, does exhibit deflection when subject to live loadings.

The pier under the west beam is considerably more compromised than the one under the east beam. The field stones have moved horizontally and are not plumb and true. It is adjacent to this pier that the noticeable deflection is observed when the floor above is subject to live loading.

Conclusions and Recommendations.

Based upon the sizing, spacing, and condition of flooring members, the composite flooring system appears capable of sustaining the present floor loadings.

It is virtually impossible to determine or even try to predict the structural properties of wooden members that are as old as the ones supporting this building. Section modulus data is not readily available or accurate. It is obvious that the support piers, especially the one under the west beam, need to be reinforced, as do at least some of the floor joists. This could become a significant undertaking, but would be necessary if any additional loading of the floor or expansion of the building were to be proposed.

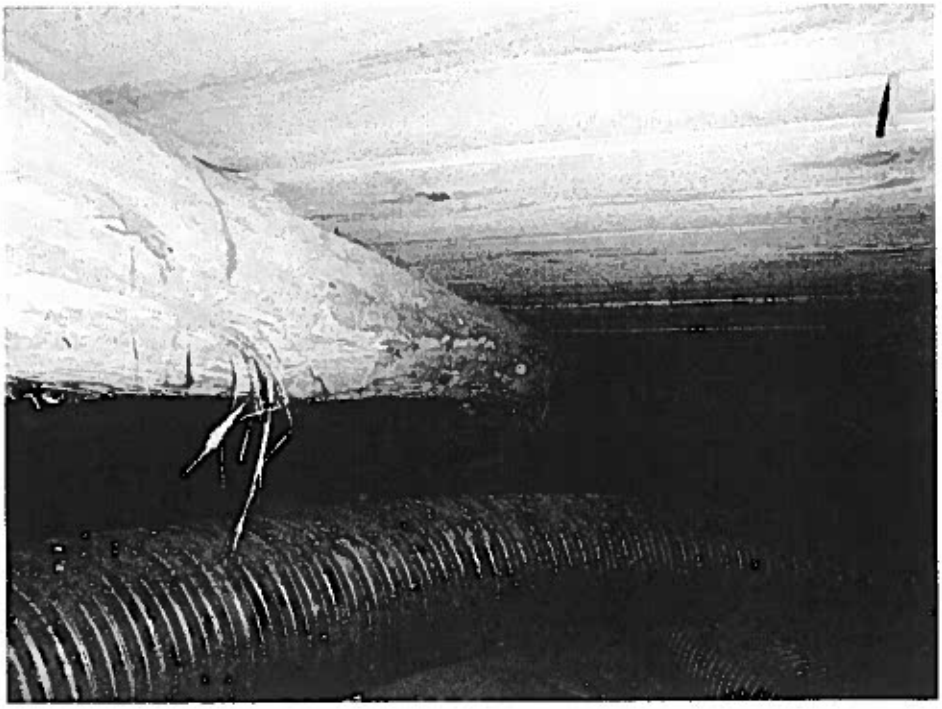


Underside of flooring system at east end of building. Hand hewn floor joist, decking above. Note support at east end of joist.

Looking northwest

Underside of flooring system at east end of building. Hand hewn floor joist supported by beam, decking above. Heating duct temporarily removed.

Looking west



Underside of flooring system at east end of building. Hand hewn floor joist, decking above. Beam and pier in background. Heating duct in foreground has been temporarily removed.

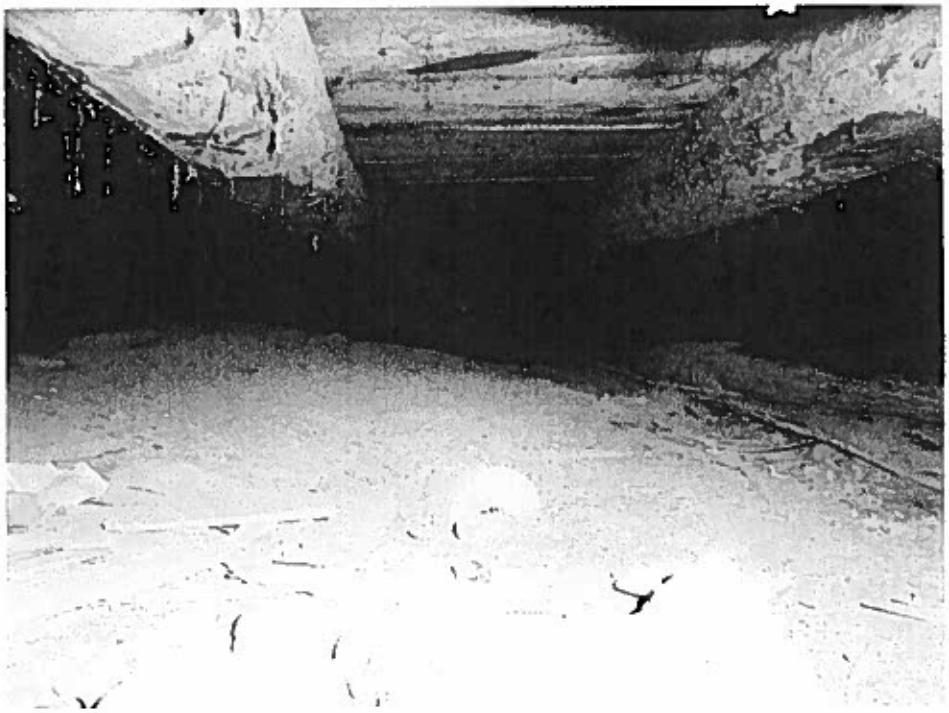
Looking west

Underside of flooring and support pier at east end. Pier is at approximate mid-span of beam.

Looking west

Underside of flooring system and west pier. Pier is under center of west beam.

Looking south

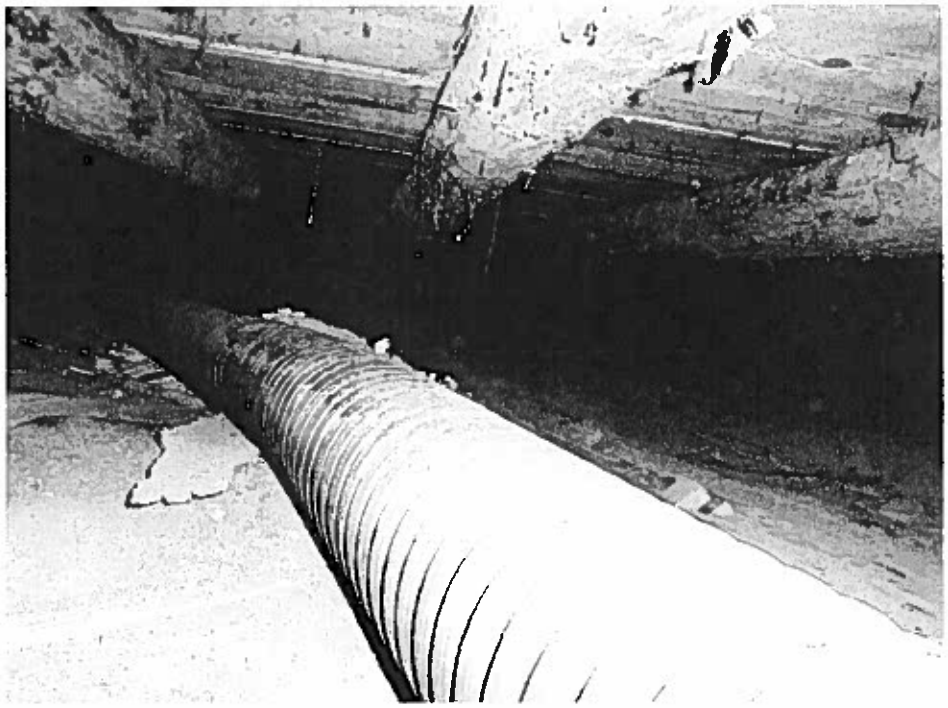


Underside of flooring system at west end of building. Hand hewn floor joists, decking above. East side of west beam.

Looking east

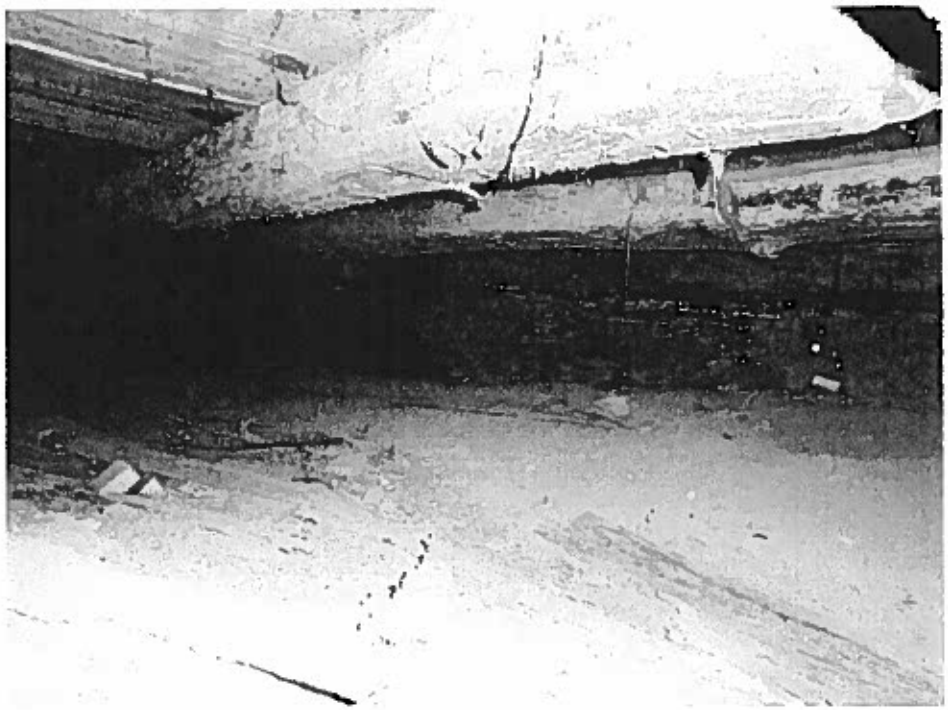
Underside of flooring system at west end of building Hand hewn floor joist, decking above. Note delamination of floor joists.

Looking southeast



Underside of flooring system at west end of building. Heating duct is in foreground.

Looking east



Underside of flooring system at west end. Note delamination of floor joist members.

Looking southeast.

Underside of flooring system at west end. Hand hewn floor joists, decking above. South side of west beam; south foundation wall beyond.

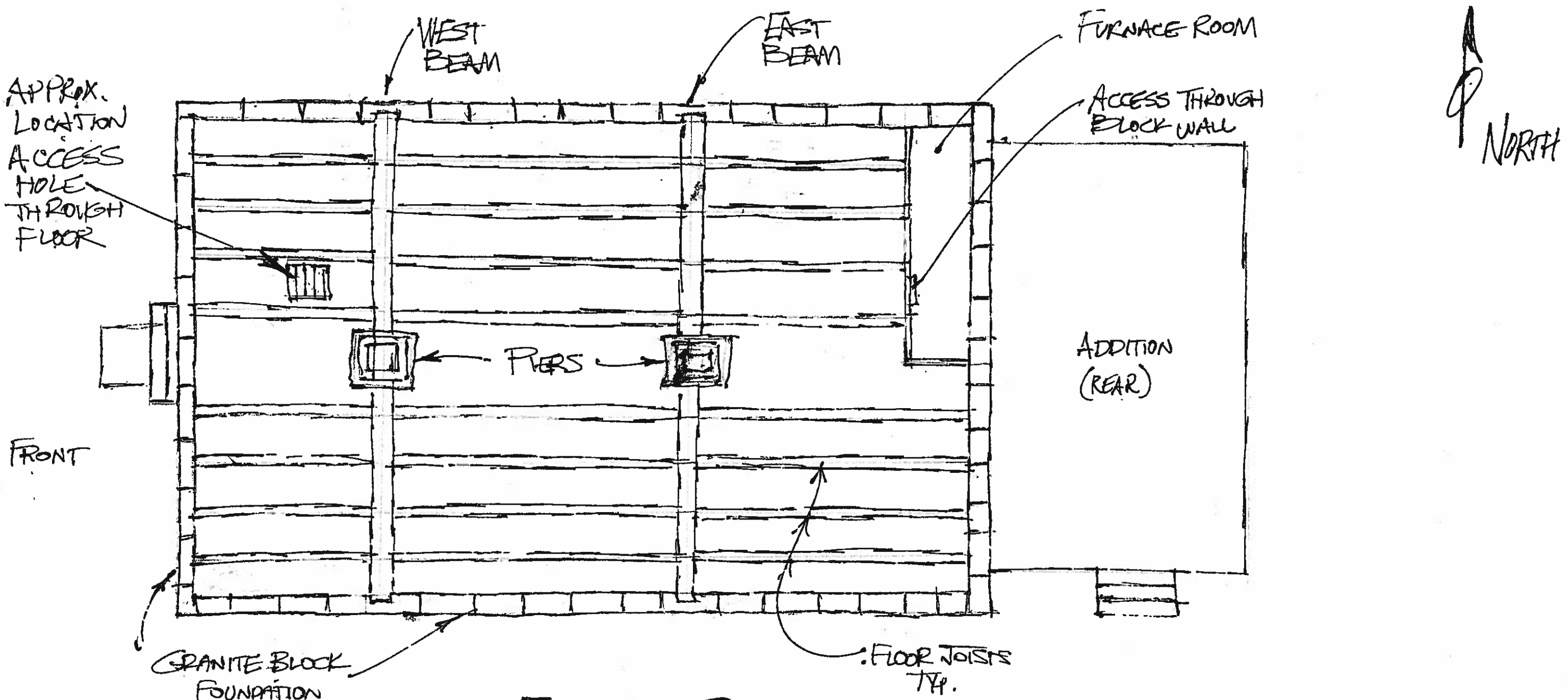
Looking south.

Underside of flooring system; west pier at center of west beam. Note differential settlement of field stones.

Looking northeast.

Underside of flooring system at west pier supporting west beam.

Looking northeast



FLOOR PLAN

MAIN BUILDING

EGREMONT FREE LIBRARY

SCALE: 1" ≈ 5'	APPROVED BY:	DRAWN BY: EKP
DATE: 11-11-04		REVISED

STRUCTURAL INSPECTION

DRAWING NUMBER SHEET 2 of 8

APPENDIX C
PLUMBING, MECHANICAL AND ELECTRICAL EVALUATION

SALAMONE & ASSOCIATES, P.C.

Consulting Engineers

116 North Plains Industrial Rd • Wallingford • CT • 06492 • Phone (203) 281-6895 • Fax (203) 287-8728

EXISTING PLUMBING/MECHANICAL/ELECTRICAL EVALUATION:

Sanitary Waste System:

Located within the slab, the sanitary system is routed to the bathroom plumbing fixtures. Vertical piping from the plumbing fixtures appeared to be pvc piping. The piping appeared to be in good condition with no signs of leakage.

Domestic Cold Water System:

Domestic cold water piping enters the mechanical room from the slab and is routed to the exterior hose bib, toilet and bathroom sink. The piping is not insulated and runs exposed in the bathroom to shut off valves. The piping appeared to be in good condition with no signs of deterioration/leakage.

Plumbing Fixtures:

A wall mounted lavatory was observed in the bathroom. Piping beneath the fixture is copper for domestic and pvc for sanitary. The lavatory appeared to be over twenty five (25) years old and in fair condition. Replacement is warranted due to age, water consumption and for future ADA upgrades.

The bathroom is equipped with a tank type water closet located adjacent to the lavatory. The water closet is manufactured by the Kohler Company and appears to be in fair condition. Replacement is warranted due to water consumption and for future ADA upgrades.

A point of use domestic hot water heater is located in the bathroom. The electric heater is manufactured by Eemax, Inc. and has a capacity of two and a half (2-1/2) gallons. The unit has been recently installed and is in good condition. No mixing valve for the domestic hot water was present. Relocate to mechanical room due to future ADA upgrades and add mixing valve.

Fuel Oil System:

One (1) above ground #2 fuel oil tank was observed at the building's exterior. The tank has a capacity of two hundred and seventy five (275) gallons with an integral heater. There appears to be deterioration present on the tank's enclosure. Fuel oil supply line from the tank is routed to the oil fired burner in the mechanical room. Tank replacement is warranted due to condition.

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Consulting Engineers

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Forced Hot Air System:

Space heating is provided by an oil fired furnace located in the mechanical room. The furnace is an model LB160 manufactured by the Boyertown Company and provides 175,000 BTU/hr of heating. Located outside the unit is an oil burner manufactured by the Carlin Company. The unit appeared to be over ten (10) years old and in good condition.

Flue breeching for the furnace is routed to an chimney stack and appeared to be in poor condition with deterioration at the furnace connection point. Replacement is warranted due to condition.

Combustion air for the furnace is provided by an exterior louver located in the mechanical room. The louver appeared to be in fair condition with debris at the sill.

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Metallic distribution ductwork from the furnace is routed to the first and second floors. The supply and return ductwork mains off the furnace is rectangular duct that transitions to round when exposed. Zone dampers were observed on the supply mains. The ductwork is not insulated and appeared to be in good condition. No records or evidence of duct cleaning was observed during our site visit.

Air distribution within the space is provided through floor/wall mounted supply grilles. Sidewall grilles were observed on the first floor and floor grilles were observed on the second floor. The grilles appeared constructed of aluminum and appeared to be in good condition.

Three (3) wall mounted non-programmable thermostats manufactured by the Honeywell Company were observed. Two (2) thermostats are located in the first floor library area and the one (1) located in the open area on the second floor. The thermostats appeared to be over twenty five (25) years old and in fair condition. Replacement is warranted due to age.

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Electrical Distribution Systems:

The electrical service entrance for the Egremont Academy Free Library is located on the north side of the building. The service wires are routed overhead from a pole located on Button Ball Lane. The wires are connected to the service entrance conductors at the second story level just under the eave. A service entrance (SE) cable, utilizing aluminum conductors, has been used for connection from the utility company service drop to the meter located on the Northeast corner of the building. The SE cable then runs from the meter into the building behind the above ground fuel tank and into the electrical panel.

This is in violation of the current Massachusetts Electrical Code (MEC) and local utility company, which require the service entrance cable to be protected from physical damage and installed in conduit. The existing wiring should be removed and replaced with wiring installed in conduit and weather head installed per MEC and local utility company requirements.

The electrical panel is a Square D QO load center rated at 200 amperes at a 120/240V, 1-phase, 3-wire voltage configuration. It is currently located in the bathroom which is also a violation of the current MEC.

Dependent upon the proposed revisions to the bathroom to make it handicapped accessible, relocation of the electrical panel may be required.

Dependent upon the actual amount of electrical load increase due to envisioned upgrades, the 200A electrical service rating for the building would appear to be adequate.

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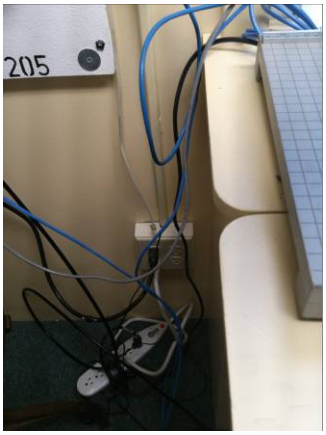
Wiring / Conduit:

Branch circuit wiring consisted of nonmetallic-sheathed cable. The cabling was observed to be surfaced mounted in some areas or installed behind walls and/or above ceilings in others. The cabling was also installed in surface mounted raceway (wiremold) throughout the building as well.

It would appear as the wiring for the building had been updated in the past. The existing wiring seems to have been in place for 25 plus years and is in good condition for its age.

Wiring Devices:



The receptacles within the building are type NEMA 5 duplex receptacles. A vast majority of the receptacles are surface mounted with a few being recessed mounted in the walls. A GFCI receptacle is located within the bathroom as required by code. However no receptacles were observed within the mechanical room.

GFCI receptacles should be added to mechanical room as well as an exterior weatherproof receptacle located near the proposed mechanical condensing unit to comply with current code.

Very few switches were observed within the building. The few that are present are primarily surface mounted. The switches controlled only a few light fixtures. A large majority of light fixtures are controlled via pull chain. No three way switches were observed. The switches appeared to be in fair condition with the exception of one which is antiquated. Additional single pole and three way switches and associated wiring/conduit should be installed so that lighting can be switched from all entry/exit points of the rooms and stairways and allow for the elimination of pull chain and push button switches on the light fixtures themselves.

Lighting:

Lighting within the building consisted of a combination of different types of lighting. The types of lighting included a surface mounted incandescent fixture in the front entry vestibule, surface mounted 1’ x 4’ and recessed 2’ x 4’ fluorescent fixtures in the main floor library areas, an incandescent chandelier and porcelain socket in the side entry vestibule.

Storage rooms and mechanical room lighting consisted of ceiling or wall mounted porcelain socket fixtures utilizing compact fluorescent lamping.

Bathroom light was observed to be a single porcelain socket with incandescent lamp controlled by pull chain and two incandescent wall sconces with push button switches.

Front stairway light is provided by an incandescent wall sconce. Rear stairway lighting is provided by a ceiling mounted porcelain socket with incandescent lamp.

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Consulting Engineers

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Lighting on the second floor consisted of two pendant mounted incandescent fixtures in the museum room and 1' x 4' surface mounted fluorescent fixtures in the office. Ceiling mounted porcelain socket with pull change and incandescent lamp was located in side room leading to attic access hatchway.

No lighting was observed in the attic area as is required by current code.

Exterior lighting was limited to a wall sconce adjacent to the front entry door and a flood light over the side entry door controlled by a motion sensor.

Existing light fixtures are inefficient, antiquated and of varying types. All lighting should be removed and replaced with new energy efficient fixtures.

Emergency / Egress Lighting:

Emergency / Egress lighting in the building consisted of two combination emergency lighting / exit signs. One located adjacent to the front entry door and one located above the side entry door. These combination units have remote capability and provide power to a single remote mounted emergency light fixture mounted on the exterior of each respective door. The one located adjacent to the main entry door is pointing downward and is not directed properly.

A dual head emergency light was observed between the two main rooms on the first floor. However, this fixture was non-functional. A dual head emergency light fixture was also observed in each stairway. The heads on the rear stairway fixture need to be adjusted.

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Only one emergency light fixture was located on the second floor. It is located in the museum adjacent to the rear stairway door. Although the exit sign at the rear stairway door in the museum is illuminated by the adjacent emergency light, the other non-light exit sign is not and is in non-compliance with code. The single emergency light also does not produce sufficient lighting for the egress path to meet code.

The existing exit signs on the second floor should be removed and replaced with self-illuminating units. Additional emergency lighting should be installed throughout the building.

Fire Alarm System:

The building fire alarm system consists of a four zone conventional fire alarm control panel (FACP) located in the storage closet in the bathroom. Although, the FACP is a four zone panel, only one zone has been installed and monitors the entire building. A separate digital alarm communicator transmitter located adjacent to the FACP has been installed for communication to central station monitoring. The FACP was installed in March of 1986 with the battery being replaced in September of 2010.

Detection devices consisted of two smoke detectors. One located at the top of each stairway and a single heat detector located in each room except for the second floor museum which has two wall mounted heat detectors installed. No detection devices were observed in the attic spaces. The detection devices appear to have been in place a number of years.

SALAMONE & ASSOCIATES, P.C.

Consulting Engineers

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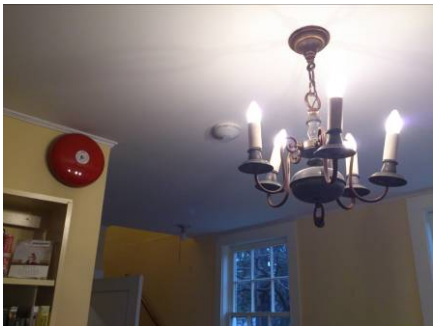
Initiation devices consisted of a single pull station located in between the two main library areas on the first floor. This device is mounted higher than allowed by current fire alarm code. Current fire alarm code also requires manual pull stations to be located within five feet of each exit door of the building.



The only notification device observed within the building consisted of a fire alarm bell.

A fire department knox box was located on the exterior of the building adjacent to the main entry door.

The existing fire alarm system should be removed and replaced with a fully addressable system. Smoke detection devices should be installed throughout with heat detectors installed in the attic spaces and mechanical room. Pull stations should be installed within five feet of the exit doors and at the proper height. Combination horn / Strobe notification devices should be installed were required by code.

Security Systems:

Security systems for the building consisted of a wireless system manufactured by DSC. The system utilizes door contact alarms and motion detectors. Door contacts are installed at both the main and side entry doors as well as the office doors on the second floor. Motion sensors were located

in the main entry vestibule, side entry room and first floor library area.

The keypad is located adjacent to the side entry door. Control panel and siren are located in the library on each side of the doorway from the side entry room.

Also observed was a entry/exit chime system. The sensor unit was located above the door leading from the main entry into the library. A counter unit was located adjacent to the desk area in the front corner of the building. The sensor unit seems to also contain a video camera, however it does not appear as the wiring for viewing the camera has been installed.

The security system and entry/exit system appeared to be in good condition. Consideration should be given to the installation of additional motion detection and glass break sensors.

Telecommunications:

The building contained two different telecommunications systems. It appears as standard telephone wiring is routed over head from a utility pole on Button Ball Lane and down the north side of the building to system network interface boxes. It seems as this service is for the telephone system for the building only with the wiring extending from the system network interface boxes to telephone jacks located within the building. Two jacks were located adjacent to the FACP for the two phone line required by code. Jacks were also observed near the desk areas on the first floor and on the second floor mounted in front of the stage.

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The second telecommunications system observed is a satellite based broadband high speed internet system. A satellite dish is located in the lawn area on the east side of the building facing southwest. Wiring is routed underground from the satellite dish to the building. Once at the building, the wiring is routed on the side of the building, enters through the mechanical room louver vent. It then runs through the mechanical room and above the library ceiling to the broadband equipment located on the south side of the building.

The existing satellite internet system wiring exposed along the exterior of the building should be properly secured to the building and a new building entry point provided so that the cable is not routed through a louver opening as is currently the case.

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PLUMBING SYSTEM DESIGN CONCEPT:

Proposed Plumbing System:

The majority of the components that are apart of the plumbing system appear to be in fair condition. Given the useful service life of this equipment and current condition, cost of service and replacement parts along with labor to maintain units could become cost prohibitive. Energy savings will be present with an introduction of proposed components due to the modern day concern for savings and operations. Our office recommends completely removing all the plumbing fixtures and miscellaneous piping.

Our office recommends the following proposed Plumbing System:

Replace existing plumbing fixtures with low consumption ADA models.

Insulate domestic piping.

Relocate domestic water heater if bathroom becomes ADA compliant.

Replace existing fuel oil tank and associated accessories.

MECHANICAL SYSTEM DESIGN CONCEPT:

Proposed Mechanical System:

The majority of the components that are apart of the mechanical system appear to be in good condition with the exception of the furnace breeching and thermostats. Our office recommends completely removing all the breeching and thermostats.

Our office recommends the following for the Mechanical System:

Replace furnace breeching.

Replace thermostats.

Clean supply/return ductwork and associated grilles.

Add direct expansion cooling via high efficiency air cooled condensing unit and coil. (optional)

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ELECTRICAL SYSTEM DESIGN CONCEPT:

Proposed Electrical System:

Emergency and egress lighting does not appear to comply with code. The existing lighting fixtures and fire alarm system appear to be beyond their useful life and in fair to poor condition. The electrical service entrance installation and panel location do not comply with current code.

Our office recommends the following proposed Electrical System:

Provide additional emergency and egress lighting units.

Replace existing light fixtures with energy efficient fixtures.

Provide lighting in attic.

Replace existing fire alarm system.

Provide carbon monoxide detectors monitored and powered by the fire alarm system.

Replace existing service entrance cable with new service conductors routed in conduit.

Relocation electrical panel.

Reroute / resecure exposed telecommunication wiring.

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ESTIMATED DESIGN COSTS

*Does not include hazardous materials
*Does not included electrical service upgrade

Proposed Plumbing System:

• Demolition of the existing plumbing fixtures:	$200.00
• Demolition of oil tank and associated accessories:	$500.00
• Proposed plumbing fixtures and related piping:	$1,200.00
• Proposed oil tank and associated accessories:	$1,200.00
• Proposed pipe insulation:	$200.00
• Add mixing valve for water heater:	$125.00
• Relocate domestic water heater (if bathroom becomes ADA)	$200.00
• Subtotal:	$3,625.00
• 10% Overhead:	$362.50
• Subtotal:	$3,987.50
• 10% Profit:	$398.75
• Total:	$4,386.25
• Say:	$4,500.00

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Proposed Mechanical System:

- Demolition of the existing breeching and thermostats: $200.00
- Proposed breeching: $200.00
- Proposed programmable thermostats: $300.00
- Proposed duct cleaning: $1,000.00
- Subtotal: $1,700.00
- 10% Overhead: $170.00
- Subtotal: $1,870.00
- 10% Profit: $187.00
- Total: $2,057.00
- Say: $2,500.00

- Proposed cooling option: $6,000.00

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Proposed Electrical System:

• Demolition of abandoned/obsolete electrical equipment, Wiring and conduit:	$	700.00
• Proposed energy efficient light fixtures, emergency And egress lighting upgrade:	$	12,000.00
• Proposed fire alarm / carbon monoxide upgrade:	$	8,600.00
• Miscellaneous electrical connections, equipment, wiring, conduit, etc:	$	2,500.00
• Proposed receptacle and switches upgrade:	$	1,000.00
• Relocation of electrical panel:	$	1,500.00
• Installation of new service entrance conductors in conduit:	$	1,800.00
• Rerouting / resecuring of telecommunications wiring:	$	700.00
• Subtotal:	$	28,800.00
• 10% Overhead:	$	2,880.00
• Subtotal:	$	31,680.00
• 10% Profit:	$	3,168.00
• Total:	$	34,848.00
• Say:	$	35,000.00

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